

# TECHNOLOGY

## REVIEW

*January* 1959



# technology review

Published by MIT

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# Right off the Wire

Before the first nuclear-powered merchant vessel is launched, a new reactor system which has been designed is expected to reduce the cost of a comparable installation by forty per cent.

After leaving a new electric shaver plugged into an outlet overnight it can be used for a week without recharging.

A radio operator's vest, with pockets for dry cells, can be worn under outer garments in arctic cold. The batteries, when kept warm by body heat, are said to last ten times longer.

Automobile batteries are now made with cells which can be removed and replaced in a few minutes.

A new electronic surveying technique, now in use in highway layout work, enables engineers to establish numerous ground control points and measure distances in a matter of minutes. Maximum possible error is only 11 inches in 40 miles.

Copper strip is being made from powdered metal. The process can also be used for other metals which can be combined in no other way.

A portable building for use in the arctic has hollow walls of nylon fabric. When the walls are inflated the building stands erect.

A research program has begun for the study of new semiconductors for use in transistors. The materials are indium phosphate, gallium arsenide, aluminum antimonide.

An insulated guard rail for the end of the boom is made to protect a crane operator in case of contact with a power line.

More and better rayon is the object of a study of cellulose growth in living trees. Two-year-old pines are injected with radioactive carbon and are later cut down for examination.

A new plastic adhesive used in aircraft construction is semi-elastic and stronger than the metals it joins.

A new titanium alloy is made into sheets that will withstand air pressures of over 100 tons per square inch.

The "world's loudest noise" can be produced by a new compressed air loud speaker that is capable of projecting the human voice for ten miles.

**Further information on these news items and on Simplex cable is available from any Simplex office. Please be specific in your requests.**

Twelve pneumatic tires, each supporting a load of 20,000 pounds, enable a new lift to pick up and move concrete pipe sections at five miles per hour.

The Post Office Department has awarded a contract for the development of a mechanical letter-sorting machine.

Aerodynamic shapes designed to travel at over 8,000 miles per hour can be tested in a new wind tunnel.

Layers of steel, bronze and a mixture of lead and plastic compose a new dry bearing material that requires no lubrication.

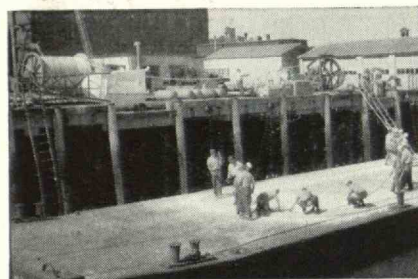
Coils of aluminum, plastic or steel, up to 82" O.D., can now be spiral wrapped by machine.

A new method of producing electricity uses a fuel cell that converts hydrogen and oxygen into direct current by means of a catalyst.

A new recording instrument measures heat absorption in any area and is used for allocating air conditioning or heating charges to tenants.

Quartz tubing is being made so small that fifty feet contain only one drop of water.

A new heat resistant paper is made of ceramic fibers.



## Simplex Goes To Sea

The 36,000-foot "sea section" of the Simplex submarine communication cable, for use between Cape Neddick, Maine, and Boone Island Light, was loaded in August at Boston.

The cable came off a giant reel (dia. of head 126 inches) and was carried over a capstan to the 126-foot barge.

The cable is described as "4-conductor, No. 9 AWG stranded, ANHYDREX insulated, armored submarine communication cable."

The reel and its load of more than six miles of cable weighed 68 tons.

**SIMPLEX WIRE & CABLE CO.**  
Cambridge, Massachusetts and  
Newington, New Hampshire

# Simplex

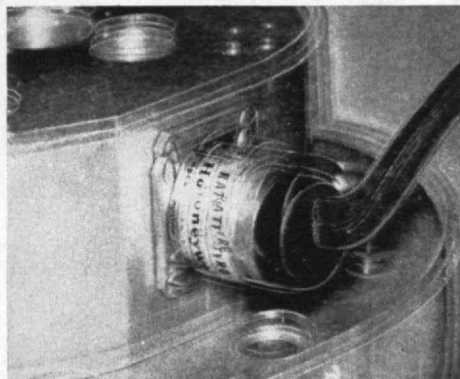
Highest quality cables for: Mining  
Power & Lighting • Construction  
Transportation • Communications  
Signalling

# HONEYWELL MINIATURE RATE GYROS

**Rugged enough to withstand 100 G shock**



Model M-1  
shown actual size



Typical M Series Gyro undergoes 20 G Linear Vibration Test with no deterioration of performance.

**Sensitive enough to detect 0.005° per second**

Honeywell's newest miniature rate gyros, Type M Series, are rugged enough to withstand repeated shocks and linear accelerations up to 100 G yet sensitive enough to detect turn rates of only 0.005 degrees per second. A damping ratio variation of 2 to 1 or better is maintained without heaters by a unique fluid damped, temperature compensated system that assures reliable operation over the entire operating temperature range.

Type M Series Gyros are specifically designed for autopilot damping, radar antenna stabilization and fire control applications. Their small size, high performance and ruggedness suit them particularly for high performance military aircraft and guided missile applications. Write for Bulletin M to Minneapolis-Honeywell, Boston Division, Dept. 1, 40 Life Street, Boston 35, Mass.

## DESCRIPTIVE DATA

FULL SCALE RANGE: to 400 degrees per second

THRESHOLD-RESOLUTION: 0.005 degrees per second

LINEARITY: 0.1 % to 2 % depending on range

DAMPING: 2 to 1 (or better)

TEMPERATURE RANGE: -65 to +200 and +250°F

SHOCK AND ACCELERATION: 100 G

VIBRATION: 20 G to 2000 cps

PICKOFF: Variable Reluctance type providing infinite resolution and high signal-to-noise ratio

MOTOR EXCITATION: 26 volts, 400 cps (standard)  
2 phase and 3 phase

SIZE: 1" diameter, 2 3/4" long

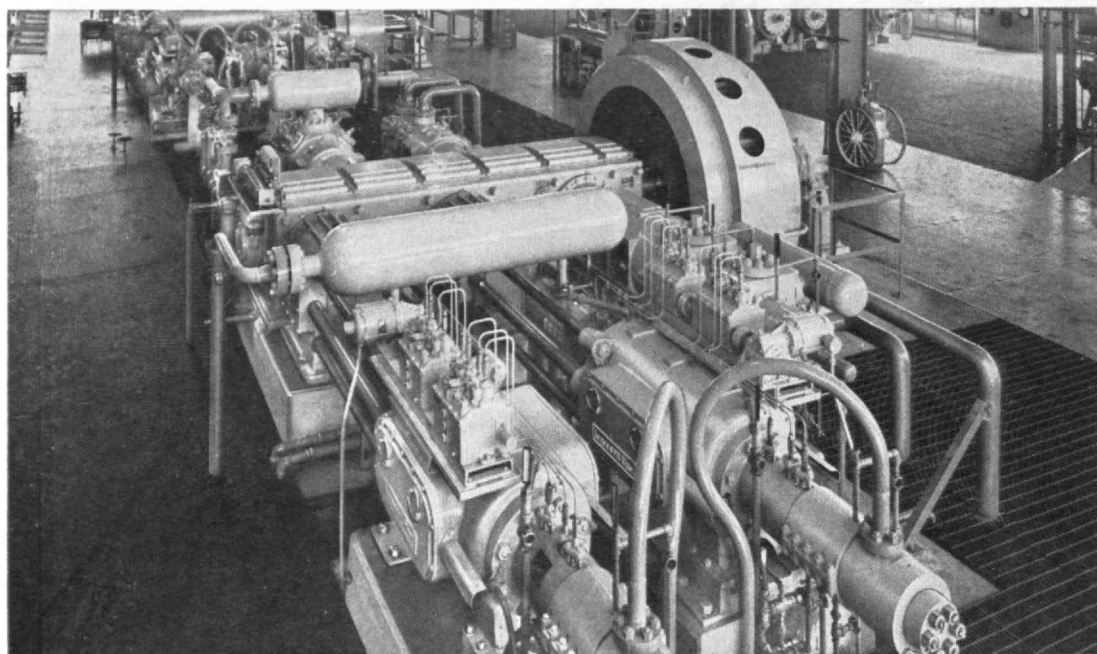
WEIGHT: 4.5 ounces

# Honeywell

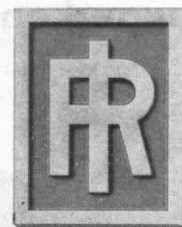


*Military Products Group*

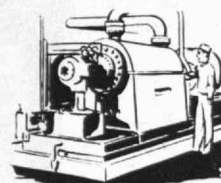
with **INGERSOLL-RAND**



Seven electric-driven Ingersoll-Rand reciprocating compressors totaling 21,900 horsepower are at work in this large ammonia synthesis plant. The units in the foreground compress mixed gases to more than 12,000 pounds per square inch.



also means  
**LEADERSHIP**  
in



Centrifugal Pumps

## Here's What Compressor Engineering at Ingersoll-Rand can mean to you...

**T**ODAY, air power is one of the industry's most vital requirements. Compressed air and gases are the "breath of life" to chemical and process industries, refineries, power plants, steel mills, manufacturing plants, mines and all types of construction jobs. Hence, compressor and blower engineering offers an exciting and ever-expanding field of challenging opportunities that are virtually industry-wide.

Ingersoll-Rand is the world's largest manufacturer of air and gas compressors and Turbo-Blowers — supplying over 1000 different sizes and types, ranging from 1/2 hp to

17,250 hp, in pressures from vacuum to 35,000 psi.

Ingersoll-Rand also manufactures pumps, rock drills, diesel and gas engines, vacuum equipment, blowers, air and electric tools and specialized industrial machinery as illustrated at the right. These products require engineering know-how in their design, manufacture and field application.

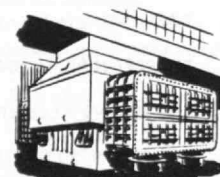
If you are looking for a leadership career with long-range job security and excellent opportunities for advancement, you'll find it at Ingersoll-Rand. For further details, contact your Placement Office, or write to Ingersoll-Rand, 11 Broadway, New York 4.



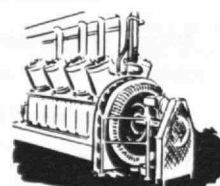
Rock Drills



Air & Electric Tools



Steam Condensers



Diesel & Gas Engines

### OPPORTUNITIES for ENGINEERS NOW AVAILABLE:

- Sales Engineering
- Production Engineering
- Design Engineering
- Business Engineering

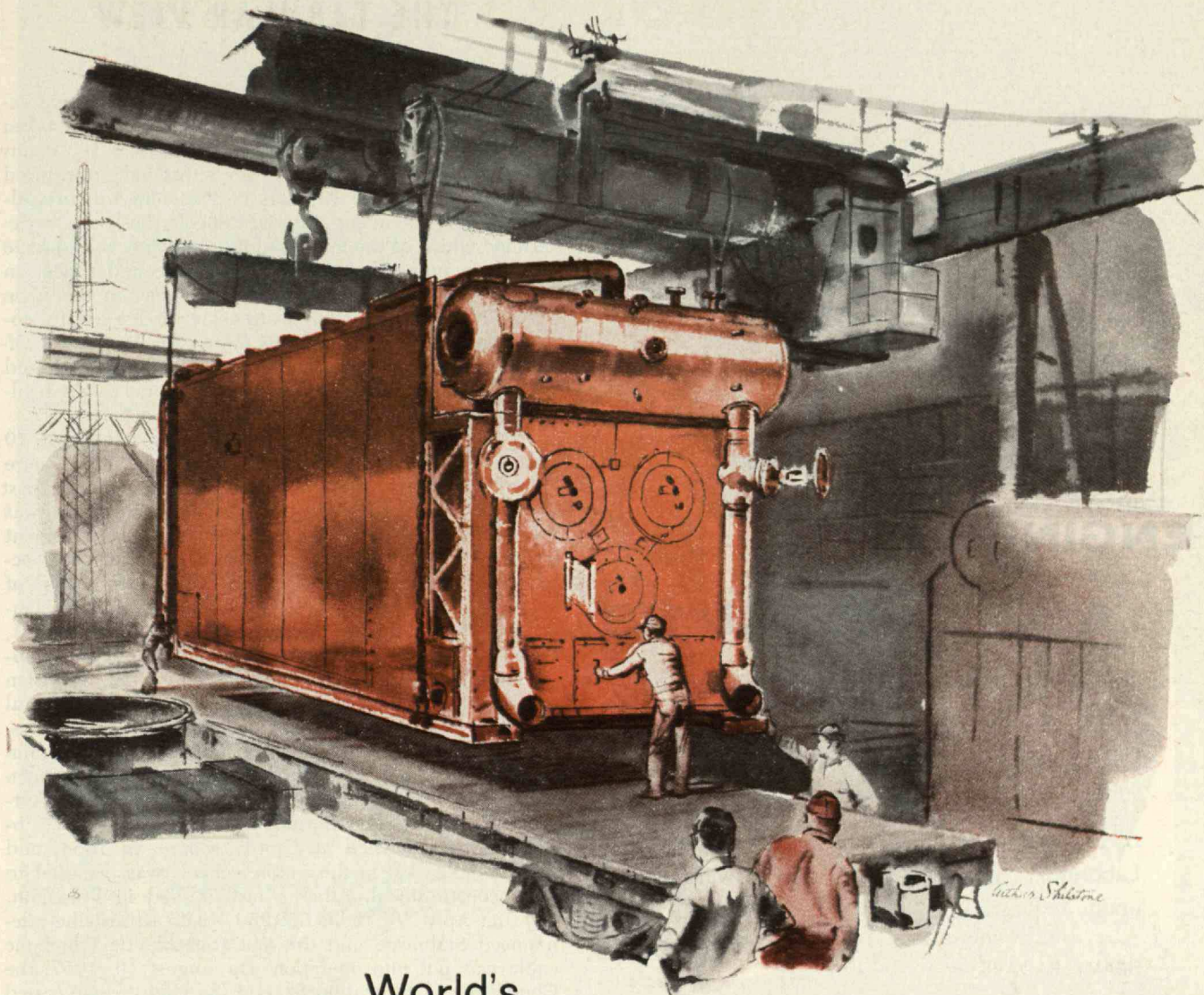
# Ingersoll-Rand

1-711

11 Broadway, New York 4, N. Y.

*Among the many graduates of Massachusetts Institute of Technology at Ingersoll-Rand are:  
L. C. Hopton, 1926, First Vice-President and Secretary; P. J. Bentley, 1925, Vice-President.*

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## World's highest capacity Package Boiler removes traditional space and performance limitations

The flat car pictured above is carrying an engineer's dream. It's a space-saving steam generator which makes electric utility performance standards available to industrial plants. It's a unit of large capacity—yet it's factory-assembled and ready to be installed as a one-piece "package." It's a product which reflects C-E's record of developing steam equipment that introduces new standards of performance.

For the first time, here's a boiler capable of producing over 100,000 pounds of steam every hour . . . and at pressures and temperatures previously unobtainable in a 'packaged' unit. These results are made possible by utilizing *C-E Controlled Circulation*, the most notable development of this decade in the field of large utility boilers.

In short, here's a new alliance of performance with economy. This is what progressive management demands of its capital equipment. This is what you can count on *Combustion* to deliver.

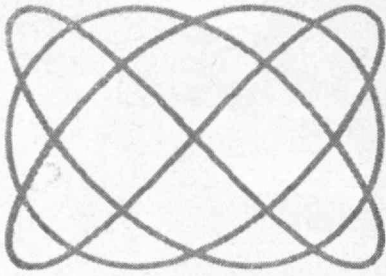
**"CREATIVE ENGINEERING"** is the reason for the leadership attained by C-E products. The products which bear this mark of leadership include:

all types of steam generating, fuel burning and related equipment • nuclear power systems • paper mill equipment • pulverizers • flash drying systems • pressure vessels • soil pipe

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are invited to join the Lincoln Laboratory scientists and engineers whose ideas have contributed to new concepts in the field of electronic air defense.

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In certain of these programs, positions of significant professional scope and responsibility are open to men and women with superior qualifications.



Research and Development

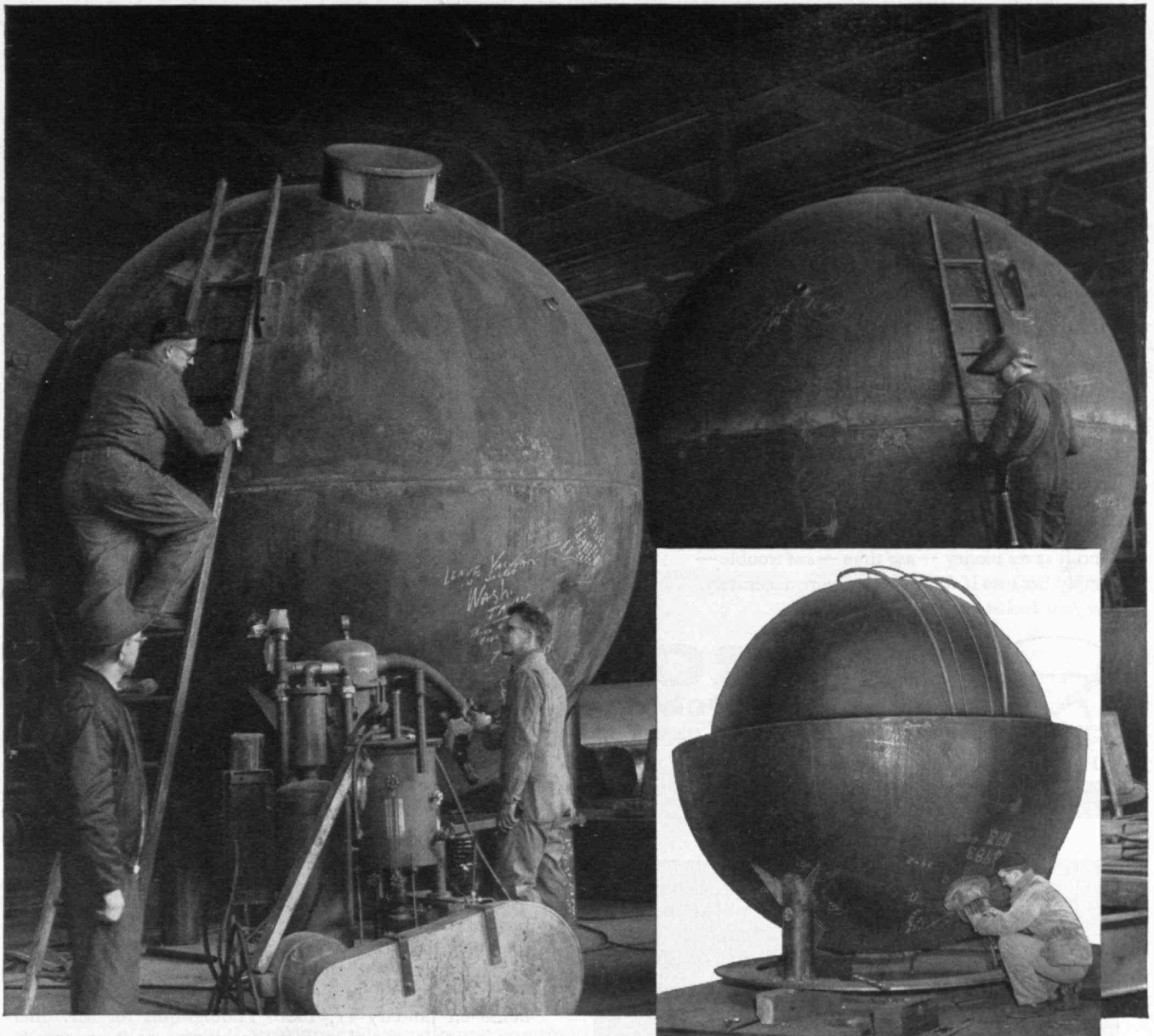
# MIT

**LINCOLN LABORATORY**  
**BOX 28**  
**LEXINGTON 73, MASSACHUSETTS**

**Decade in Review.** — Perhaps the term “explosive expansion” best describes the changes that have taken place at M.I.T. since the end of World War II. At any rate, in preparing a survey of events that have transpired at M.I.T. during the 10 years of President Killian’s administration, the major editorial difficulty has been to determine which of the many significant events would have to remain unmentioned for lack of time and space. In writing *THE TECHNOLOGY REVIEW REPORT* in this issue (page 137), the editor wishes to acknowledge helpful cooperation from the Treasurer’s Office, the Registrar’s Office, the Office of the Dean of the Graduate School, and the Office of Physical Plant, whose personnel made available the statistical data included in this article.

In reviewing the progress at M.I.T. for the past 10 years, we found it interesting to recall some of the more important events that took place elsewhere in the past decade. The North Atlantic Treaty Organization was formed in 1949, and in September of that year President Truman announced that an atomic explosion had occurred in the Soviet Union. During 1950, Jacob Malik of the U.S.S.R. walked out of the United Nations in January; six months later, Korea was invaded. In 1951, General Douglas MacArthur was relieved of his command, and on September 4 transcontinental television service was inaugurated. In November, 1952, General Eisenhower was elected President of the United States. Three significant events occurred in 1953: Joseph Stalin died; the U.S.S.R. announced a test of the hydrogen bomb; and Elizabeth II was crowned queen in Westminster Abbey. The *Nautilus*, first atomic-powered submarine was launched at Groton, Conn., in 1954, and racial segregation in the public schools was declared to be unconstitutional. Albert Einstein died in Princeton, N.J., on April 18, 1955. In 1956 Nikita Khrushchev denounced Stalinism, and the first transatlantic telephone cable was put into operation. On August 10, 1957, the Committee on Education Beyond the High School issued its report, predicting crises in college education. The Russians launched their first artificial satellite on October 4 and their second on November 4. On November 7, President Eisenhower named Dr. Killian to be his Special Assistant for Science and Technology.

**Education, with Perspective.** — As society becomes ever more complex, the problem of providing training programs, for properly educating a nation’s citizens to fulfill their obligations, becomes increasingly difficult. Today, educators in many advanced nations are struggling heroically with this task which probably has no single “best” solution, even within a given country. The debate of the liberal arts versus technical education is giving way to the general recognition that significant elements from both programs are essential for an educated person of today. The importance of history in helping to provide the essential ingredient of perspective (which every successful educational program supplies) is discussed (page 147) by ROBERT S. WOODBURY, ’28, Assistant Professor of English and History in the Institute’s Department of Humanities. After having been graduated in 1928 from the Institute’s Course IX-C, where he studied mathematics and theoretical physics, Professor Woodbury continued studies in mathematics at M.I.T. for another two years. In 1936, Harvard University awarded him the A.M. degree in the history of science. (Concluded on page 122)



## LINDE SELECTED GRAVER To Build These Liquid Oxygen Storage Spheres

To keep oxygen liquid—at 297° below zero—for prolonged periods, requires quality fabrication of the container. Otherwise, losses from heat-leak, and consequent evaporation, would increase oxygen cost.

To meet these severe requirements in fabrication, Linde Company (Div. of Union Carbide), a leading producer and shipper of liquid oxygen, chose Graver to fabricate these 9 ft. diameter, double-shell spheres. The inner shells are constructed of 304 stainless steel, and the outer jackets of carbon steel. Insulation is by Linde-patented powder-vacuum. Fabricated with air-tight

welding to assure holding the vacuum between the shells, the spheres were delivered complete with instruments ready for installation.

The fabricating and welding skills in these liquid oxygen spheres are the result of many years of experience. Graver's extensive background in the field of cryogenics is but one of the many reasons why companies regularly turn to Graver to fabricate storage and processing vessels in alloys and carbon steels—especially those calling for the special skills required for quality production to meet severe operating conditions.

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12-1/4

## THE TABULAR VIEW

(Concluded from page 120)

ence. Except for seven years as Commander in the Navy during World War II, since 1929 Professor Woodbury has been engaged in teaching intellectual history, history of science, and history of engineering to M.I.T. students.

**Fort Washington.** — Few of the ever-growing number of M.I.T. students, or members of the Institute's Faculty or staff, are acquainted with the historic gun emplacements erected during the early years of the American Revolution on land that is virtually in the Institute's "back yard." Bostonians, too — whether proper or improper — are equally insouciant concerning this historic spot which bears the name of Fort Washington. The fort (now a small park) is not far from the Tech Boat House; it is located in an industrial section of Cambridge, just across the Boston and Albany tracks from the Westgate housing unit for married M.I.T. students. The history of this fort was recorded several years ago by the late CHARLES W. SHERMAN, '90, who brought it to the attention of The Review's editor. Mr. Sherman's manuscript was held for the obviously propitious occasion of celebrating the centennial of the gift of the park to the City of Cambridge, and appears on page 150 of this issue. Mr. Sherman received the S.B. degree in Civil Engineering from M.I.T. in 1890 and in 1895 received the master's degree in the same field from Cornell University. He was a member of the firm of Metcalf and Eddy for many years, and after his retirement in 1938, served as consultant to his well-known firm. From 1937 until 1954, he was president of the Belmont Savings Bank in Belmont, Mass. After 1954, he became a vice-president of the bank. He was also a director of the Merchants Cooperative Bank of Boston, and a former water commissioner of the Town of Belmont, Mass., where he lived for 58 years. Mr. Sherman was former president of the New England Water Works Association, former vice-president of the Boston Society of Civil Engineers, and a member of many educational, engineering, and historical associations. He died at his home on January 17, 1958. Photographs for Mr. Sherman's article, showing Fort Washington as it appears today, were made by the late Raymond E. Hanson, '03.

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Chapman, Evans & Delehanty,  
Architects



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For the past 42 years we have been proving that quality construction can be obtained at reasonable cost. Also that the owner can count on prompt completion. As a result, we have been engaged repeatedly by leading corporations. 70% of our contracts come from those we have served before!

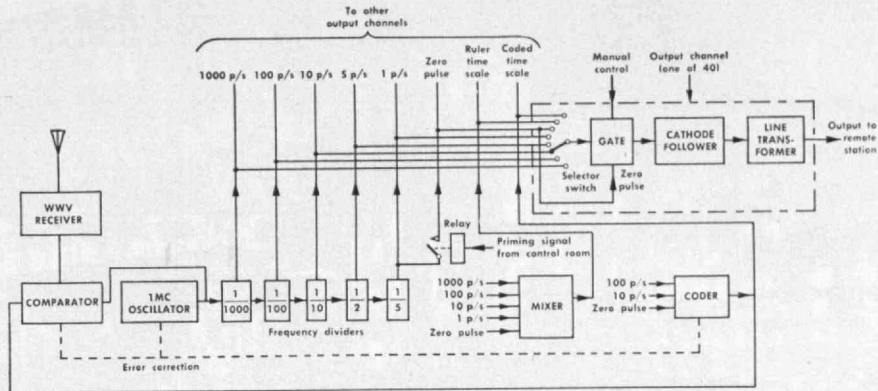
## W. J. BARNEY CORPORATION

Founded 1917

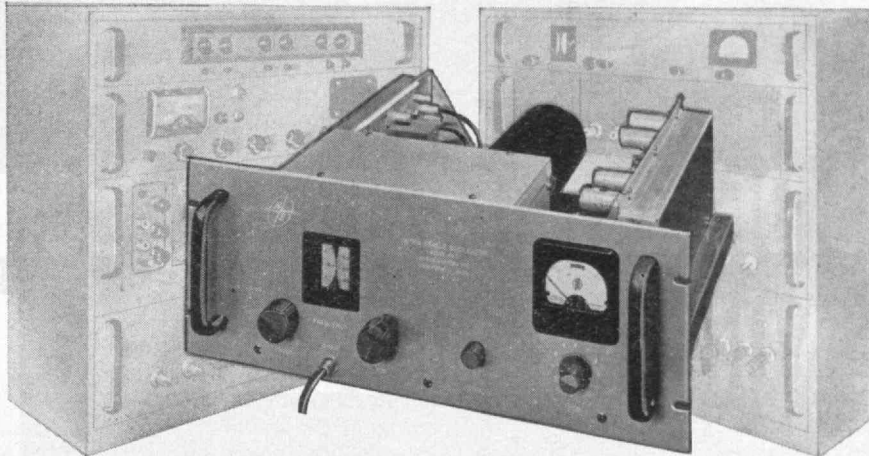
INDUSTRIAL CONSTRUCTION  
101 Park Avenue, New York

Alfred T. Glassett, '20, President

# AN INTEGRATED TIMING SYSTEM FOR TRACKING AND CONTROL OF MISSILES



Schematic diagram of Central Timing Station



The Hycon Eastern Integrated Timing System, when used as a central station timer, meets the requirements of most range instrumentation with one comprehensive unit. At pre-programmed times during the shoot, time markers are supplied to recording instruments and switching pulses are supplied to recording and control instruments located in remote slave stations.

At the heart of the Timing System is the Hycon Eastern Ultra Stable Oscillator with guaranteed stability of one part in  $10^9$  and even greater stability in actual practice. A WWV Receiver corrects for drift error of the time base oscillator over long time periods and a time scale is available with resolutions accurate to 1 microsecond.

Solar or sidereal time is displayed visually and is available for both input to automatic computers and as an index to data being recorded during the test run. Capable of operating anywhere in the world, this system is also suited for astronomical measurements and navigation systems. Write for Bulletin TS-00.

*Tomorrow's Timing Systems . . . Today*

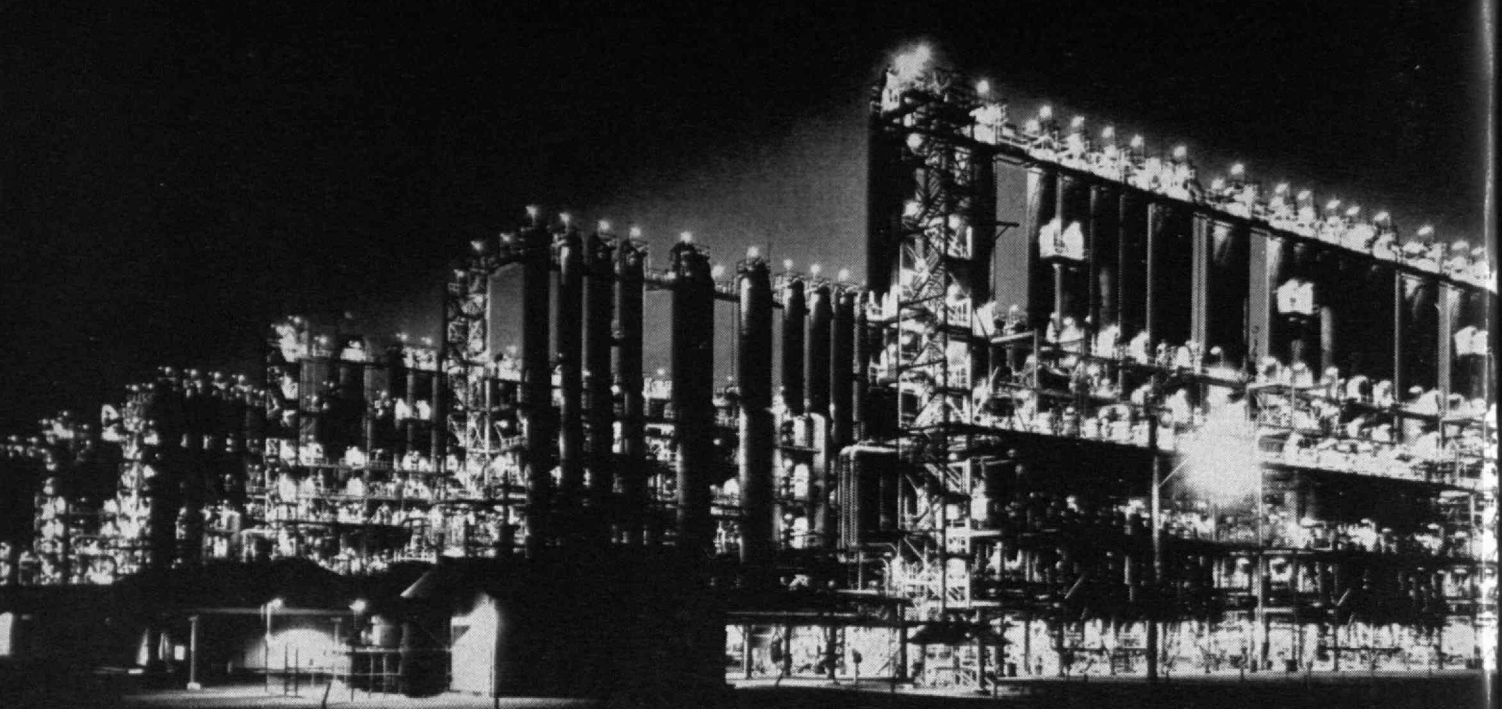


## HYCON EASTERN, INC.

75 Cambridge Parkway

Dept H

Cambridge 42, Mass.

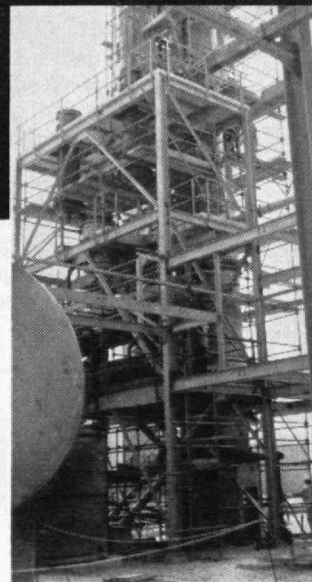
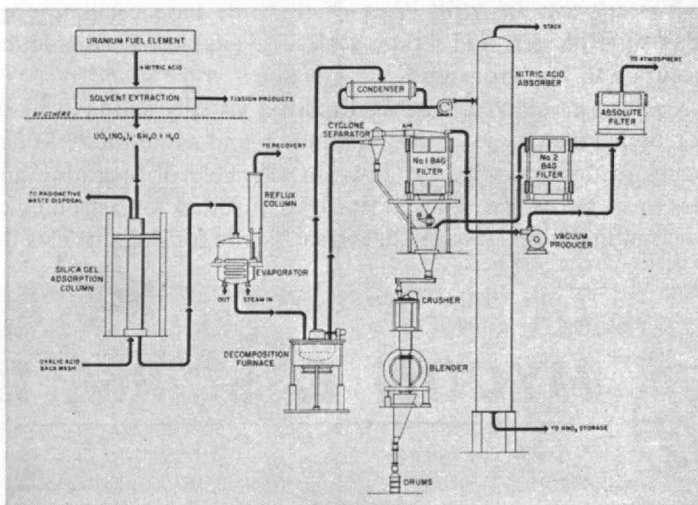


# LUMMUS DESIGNS, ENGINEERS, CONSTRUCTS FOR THE NUCLEAR INDUSTRY

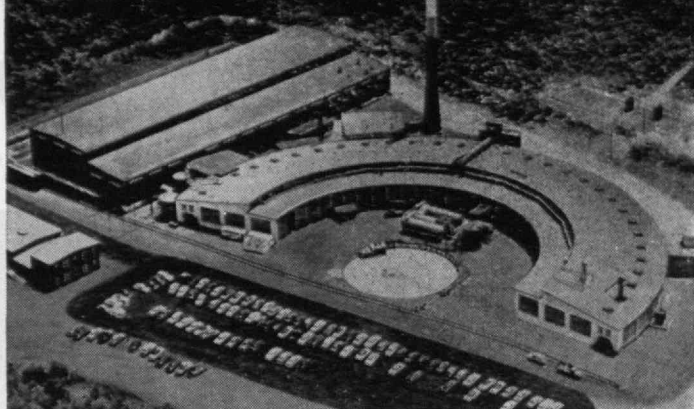
World-wide designers, engineers and constructors of over 800 major plants for the process industries in the last half century, Lummus now offers its experience for the development of atomic energy installations. Here are some current examples of Lummus work in this field:

Heavy Water Area, Savannah River Plant. Lummus handled design, engineering, procurement and construction liaison of this area.

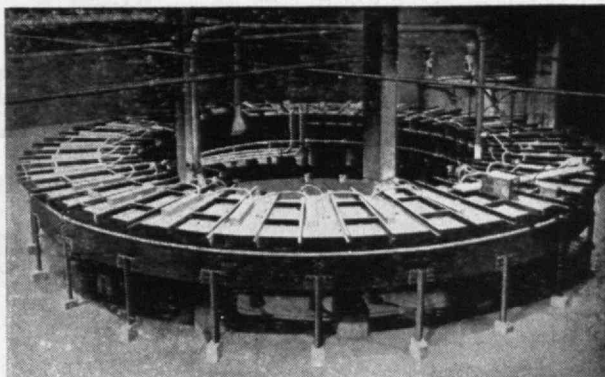
Uranium Oxide Recovery Unit of the Savannah River Plant. Lummus handled design, engineering, procurement and construction liaison of this unit.



Nitric Acid Recovery Unit of the Savannah River Plant Chemical Separations Plant. Lummus handled design, engineering, procurement and construction liaison of this unit.

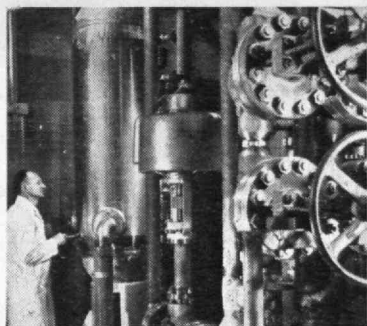


Plant engineered and designed by Lummus for Beryllium Corporation to extract beryllium metal from beryl ore.

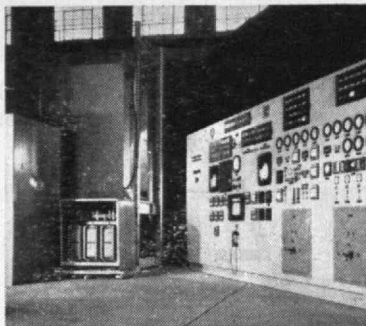


Ore sintering furnace used to produce beryllium metal.

Below is the high pressure, high temperature test facility, constructed by Lummus at its Engineering Development Center for the Knolls Atomic Power Laboratory. The facility consists essentially of a pressurized water heat exchange system and demineralizing equipment. Reactor fuel and materials samples are inserted in the in-pile test section for study under controlled conditions of temperatures, pressure, radiation flux, and water conditions.



Pressurizer, main flow control valve, loop block valves.

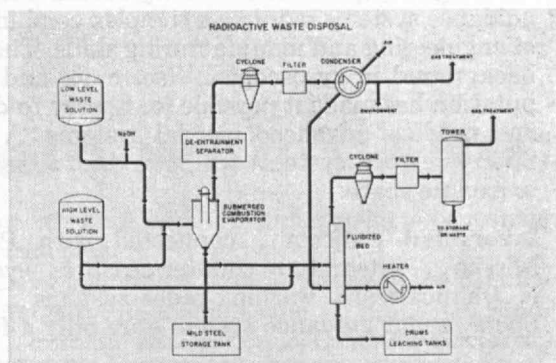
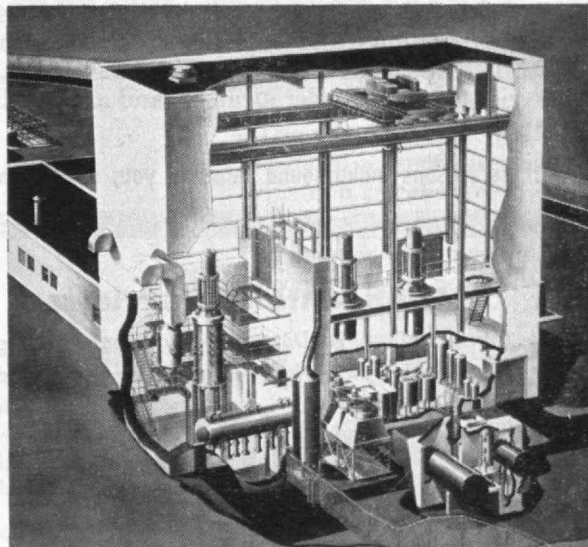


Test Loop Control Panel.



Four loop pump volutes with special cover plates for hydrostatic testing.

This high temperature test facility was designed and engineered by The Lummus Company under sub-contract to Westinghouse Electric Corporation, Bettis Atomic Power Division. Its purpose is to make criticality measurements and to determine flux distributions in water moderated reactors operating at low power levels and elevated temperatures and pressures.



In the not too distant future, large volumes of radio-active wastes will be forthcoming from power reactor operations. Great quantities of this material are now being stored in costly underground tankage. We believe that it would further reactor development to have a more economical and safe waste disposal system to take care of the large radio-active waste volumes. The Lummus approach to this has been directed toward utilizing known engineering techniques which require special consideration due to the unique problems associated with radio-active waste.

Lummus' extensive experience in evaporation, entrainment, condensation, fluidization, material handling and other unit operations, is available to design and engineer radio-active waste disposal systems of the type shown here.

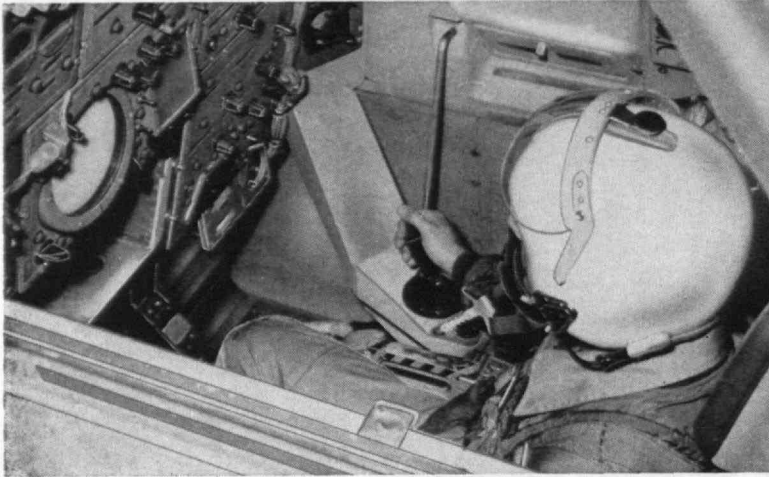


Visit the Lummus Exhibit, Fifth World Petroleum Congress Exposition,  
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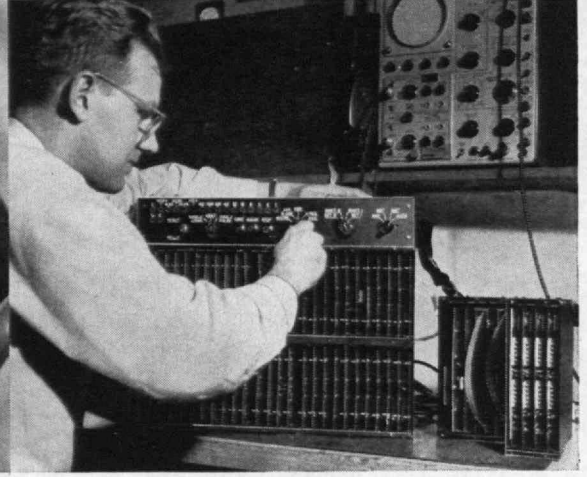
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## 4 reasons . . .

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**Diversified** projects . . . connected with Polaris Missile . . . integrated countermeasures systems . . . Tactical early warning radar systems . . . new Sperry radar guidance system—are only a few of

the widely diversified kinds of projects Sperry Engineers are assigned to.

**Engineering** "climate" . . . You will work alongside of, and with, nationally famous engineers . . . for a firm in which most of the top men are engineers who have worked their way up . . . a firm of engineers, run by engineers.

**Career** opportunities . . . Sperry Gyroscope stands for steady growth. For almost a half century, we've been expanding—and our engineers have grown with us. We offer something more than a job, to the right man. We offer a career, and a rewarding future.

If these reasons make sound sense to you, check Sperry.

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ELECTRONIC COUNTERMEASURES**

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# SPERRY

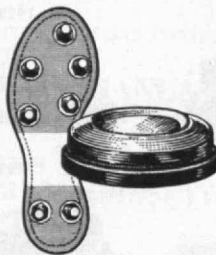
## GYROSCOPE COMPANY

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*... pipes or purses*

*... cleats or clay pigeons*



*... galoshes or golf balls*

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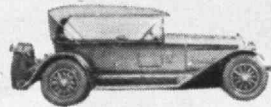
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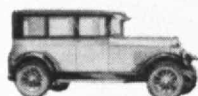
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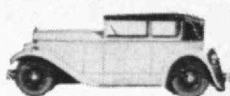
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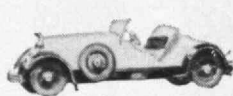
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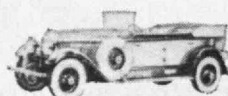
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1957



1958

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# THE TECHNOLOGY REVIEW

EDITED AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

CONTENTS for JANUARY, 1959, Vol. 61, No. 3

JULIUS ADAMS STRATTON, 11th PRESIDENT  
OF THE MASSACHUSETTS INSTITUTE OF  
TECHNOLOGY Front Cover  
Photograph by M.I.T. Photographic Service

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Professor Theos J. Thompson at control panel of the M.I.T. Nuclear Reactor, latest major research unit to be put into service at the Institute.

M.I.T. Photo

# Corporation Chairmen



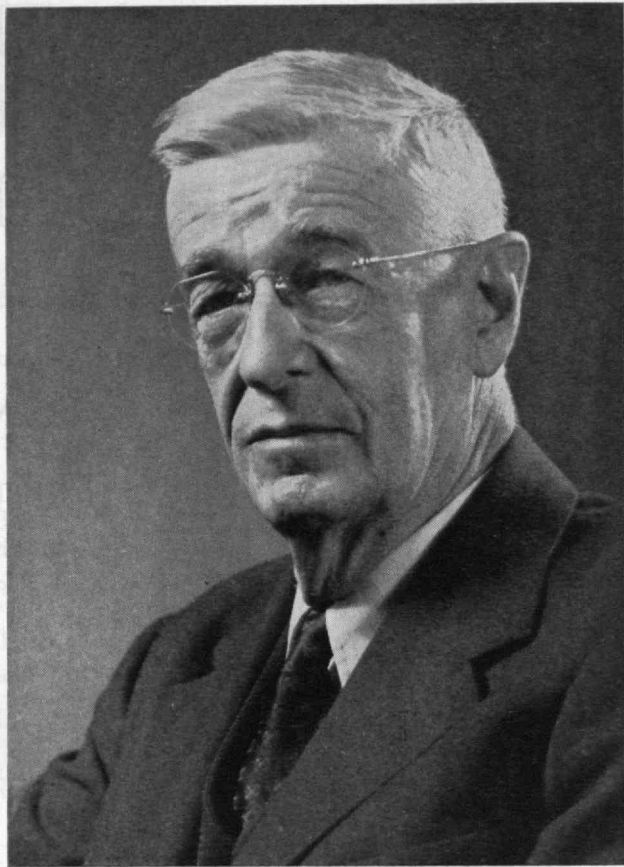
Fabian Bachrach

**James R. Killian, Jr., '26**

■ After having served the Institute as its President since October 4, 1948, James R. Killian, Jr., '26, becomes Chairman of the M.I.T. Corporation. Because of his continuing leave status and his full-time occupation in Washington as Special Assistant for Science and Technology to the President of the United States, Dr. Killian expressed the wish, last October, that he be relieved of the presidency of the Institute whenever a successor could be appointed.

In naming Dr. Killian to the post of Chairman, the M.I.T. Corporation expressed its strong conviction that the Institute now has indispensable need for two full-time senior officers — the Chairman of the Corporation and the President as Chief Executive Officer. It also urged that when Dr. Killian completes his present assignment in Washington he return to the Institute as full-time Chairman of the Corporation, a post that would enable him to concentrate on those aspects of the Institute's program that look outward rather than inward and that would be concerned with over-all trustee policy, sharing with President Stratton the formulation of Institute goals.

As its 10th President, Dr. Killian is the first Technology graduate to hold this high post. Great expansion has marked M.I.T. activities during his administration, as is recorded in this issue (page 137) under the title "Decade in Review."



M.I.T. Photo

**Vannevar Bush, '16**

■ Since his election to the post on March 22, 1957, Vannevar Bush, '16, has been Chairman of the M.I.T. Corporation, of which he was already a life member. At the meeting of the M.I.T. Corporation on December 1, 1958, Dr. Bush was elected to the new post of Honorary Chairman. This action is a particularly happy one, for it leaves Dr. Bush free to devote his energies and interests to a wide range of activities; it makes available to President Stratton and Dr. Killian, the wisdom and experience of Dr. Bush.

Dr. Bush joined the staff of the Institute's Department of Electrical Engineering in 1919. His brilliant application of advanced mathematical methods to electrical engineering and the development of the differential analyzer assured his rapid promotion on the Faculty. He was Dean of Engineering and Vice-president of M.I.T. from 1932 until the end of 1938, when he became President of the Carnegie Institution of Washington. During and after World War II he made unprecedented contributions to the application of science and technology in maintaining the nation's freedom. He was chairman of the National Defense Research Committee, 1940-1941; director of the Office of Scientific Research and Development, 1941-1946; and chairman of the Research and Development Board, National Military Establishment, 1947-1948.



## The Trend of Affairs

### Presidential Succession

■ Julius Adams Stratton, '23, whose portrait appears on the cover of this issue of *The Review*, became the 11th President of the Institute on January 1, 1959. As the second M.I.T. Alumnus to hold this high post, Dr. Stratton follows in the footsteps of James R. Killian, Jr., '26, whom he succeeds. Dr. Killian has been named chairman of the Corporation, and Vannevar Bush, '16, became honorary chairman of the Corporation. These administrative changes were voted by the M.I.T. Corporation at its regular meeting on December 1. Early report of this action of the Corporation was made to *Review* readers by a special announcement bound in the December issue, as page 64A, but it is now *The Review's* pleasure to record this momentous event in somewhat greater detail.

At a specially convened Faculty gathering, held immediately following the meeting of the M.I.T. Corporation, Dr. Bush announced election of the new officers to members of the M.I.T. family. As chairman of this special Faculty meeting, Dr. Bush said, in part:

"It is with great pleasure I announce that the M.I.T. Corporation at its meeting today confirmed the appointment of Dr. Julius A. Stratton, now Chancellor and Acting President, as the next President and Chief Executive Officer of the Massachusetts Institute of Technology, effective January 1, 1959.

"With equal satisfaction, I also report that the Corporation has accepted my resignation as Chairman and has elected Dr. James R. Killian, Jr., to this post. Dr. Killian will continue on leave of absence from the Institute in order to serve as Special Assistant to the President of the United States for Science and Technology. We all hope that he will be able to return to the Institute in the near future; and when he does, he will assume the responsibilities of his new post as full-time Chairman of the Corporation. . . .

"In making the new appointments, the Corporation has recognized the indispensable need for two full-time officers, the Chairman of the Corporation, and the President as Chief Executive Officer."

Dr. Stratton became acting president of the Institute in November, 1957, when President Killian was named to his present Washington post by President

Eisenhower. As chancellor, Dr. Stratton was already in full charge of the Institute's academic program and, in fact, general executive officer for all Institute affairs.

Since 1949, when he was appointed provost, Dr. Stratton has been a principal administrative officer of M.I.T. He became vice-president and a member of the Corporation in 1951 and was appointed chancellor in 1956, becoming a member of the Executive Committee of the Corporation at the same time.

Dr. Stratton has had a wide variety of experience in academic responsibilities and his scientific interests have been very broad. He has degrees in both physics and electrical engineering and was one of the early students in the field which has come to be known as electronics. He has written numerous technical papers on electrical theory.

Dr. Stratton was born on May 18, 1901, in Seattle, Wash., the son of Julius A. and Laura (Adams) Stratton. After one year at the University of Washington he attended M.I.T. where he received the degree of bachelor of science in Electrical Engineering in 1923. He then spent a year at the Universities of Grenoble and Toulouse, and returned to M.I.T. as a research associate in electrical communications, receiving his master of science degree in 1926. He was awarded the degree of doctor of science in mathematical physics from the Eidgenossische Technische Hochschule of Zurich in 1927, and remained in Europe on a traveling fellowship from M.I.T., studying principally at the Universities of Munich and Leipzig. Dr. Stratton was appointed assistant professor of electrical engineering at M.I.T. in 1928. In 1930 he transferred to the Department of Physics and became professor of physics in 1941.

He was one of the first members of the staff of the Radiation Laboratory, established by M.I.T. 14 months before Pearl Harbor to develop radar. In 1942 he was detached from the Laboratory to become Expert Consultant in the Office of the Secretary of War. During this period he organized a series of technical advisory committees to the Air Forces on programs of ground radar, radar fire control, and radar bombing. For these services he received the Medal for Merit from the Secretary of War in 1946.

He received a Certificate of Award from the Secretary of Navy in July, 1957, in appreciation of distinguished public service.

Following the termination of the Radiation Laboratory after the war, Dr. Stratton established the Research Laboratory of Electronics at M.I.T., and acted as director until he was appointed provost.

He is currently a fellow of the National Academy of Science and a member and a former chairman of the Naval Research Advisory Committee. He is a trustee and member of the Executive Committee of the Boston Museum of Fine Arts; a trustee and member of the Executive Committee of the Ford Foundation; a member-trustee of the Rand Corporation (a nonprofit organization engaged in research for the U.S. Air Force and other government agencies); a member of the National Science Board and of the Corporation of the Woods Hole Oceanographic Institution; a fellow of the American Academy of Arts and

Sciences, the American Philosophical Society, the American Physical Society, and the American Institute of Radio Engineers, which awarded him its Medal of Honor for 1957. He is a member of Zeta Psi, Tau Beta Pi, Sigma Xi, and the St. Botolph Club.

Dr. Stratton is the author of a treatise on "Electromagnetic Theory" and various other technical papers. He married Catherine N. Coffman of Charlottesville, Va., in 1935. They have three daughters — Catherine N., Ann Cary, and Laura Adams.

Our heartiest congratulations go out to Dr. Stratton in his new and well-deserved honor. A brilliant scholar, outstanding administrator, mathematical physicist, dedicated teacher, meticulous author, and loyal Alumnus, Dr. Stratton has our best wishes, whole-hearted co-operation, and sympathetic understanding as he assumes additional heavy responsibilities in becoming the 11th President of the Massachusetts Institute of Technology.

## Scholarship Awards

■ At a dinner meeting held in the Faculty Club on Tuesday, November 25, approximately 150 members and friends of the Boston Stein Club joined with members of the Institute's Administration for the presentation of the Club's Freshman Scholarship Fund. The presentation, in the amount of \$58,000, was made by Fund Chairman Oscar H. Horovitz, '22, to J. A. Stratton, '23, then Acting President of the Institute. Income from the fund is to be used for freshman scholarships.

Melvin W. Friedman, '46, President of the Stein Club, was master of ceremonies and introduced Mr. Horovitz, as well as Dr. Stratton who made the acceptance address. In accepting this fund, Dr. Stratton emphasized (as had Karl T. Compton, five years earlier) the importance of scholarship funds for Technology students.

Honored guests at the head table included: H. E. Lobdell, '17, Executive Vice-president of the Alumni

Association, who brought the Association's greetings to the club; Mrs. Karl T. Compton, wife of former M.I.T. President Compton; Horace S. Ford, Treasurer Emeritus; and Joseph J. Snyder, '44, M.I.T. Treasurer and Vice-president; as well as Boston Stein Club officers, Messrs. Friedman and Horovitz.

In making the presentation, Mr. Horovitz said: "Since most of our members reside in New England, it was decided to limit our fund to students resident in New England. However, a few of our members . . . live in New York and New Jersey . . . so that their gifts, in the amount of approximately \$10,000, do not have the New England residence restriction. In making grants from the income of our fund, there will be no restrictions as to sex, religion, race, or color."

Three members of the Institute's staff were honored in this presentation when Mr. Horovitz remarked:

"In their student days, many of our members were often financially embarrassed and in need of advice and assistance. Mr. Horace Ford, Mr. Delbert Rhind, and Mr. Harold Lobdell will always be remembered by many of our members for their sympathetic answers to these boys who now honor them by special funds within the Stein Club named in their honor."

The scholarship fund is the second major contribution to the Institute's educational program by the Boston Stein Club. The first was the gift of the Map Room in the Hayden Memorial Library.

*Principals in the Freshman Scholarship Fund presentation held at the Faculty Club on November 25 were (left to right): Mrs. Karl T. Compton, whose husband's interest in freshman aid initiated the club's program; J. A. Stratton, '23, Acting President, who accepted the check on behalf of the Institute; Melvin W. Friedman, '46, President of the Boston Stein Club; and Oscar H. Horovitz, '22, former President of the club.*

*M.I.T. Photo*



## Individuals Noteworthy

■ Year-end news included the 20 promotions, elections, or appointments which follow:

Leo I. Dana, '17, as Vice-president — Technology, Linde Company Division, Union Carbide Corporation . . . Raymond Stevens, '17, as a member of the Corporation, Northeastern University . . . Carleton W. Blanchard, '18, as a Director, Acme Wire Company, New Haven, Conn.;

Philip M. Dinkins, '18, as President, General Aniline and Film Corporation . . . B. Alden Thresher, '20, as Chairman, College Entrance Examination Board . . . David A. Shepard, '26, as a Trustee, New York Public Library;

Joseph S. Harris, '27, as Chairman of the Aviation Advisory Committee, American Petroleum Institute . . . James R. Rae, '28, as Chief Engineer, Long Lines Department, American Telephone and Telegraph Company . . . Gustav A. K. Stachelhaus, '28, as Manufacturing Manager, Special Tube Operations, Sylvania Electric Products, Inc., Mountain View, Calif.;

Charles M. Perkins, '29, as Chief Engineer, Fuller Manufacturing Company, Kalamazoo, Mich. . . . Donald B. Sinclair, '31, as Vice-president, Institute of Radio Engineers . . . Manson Benedict, '32, as a member of the General Advisory Committee, Atomic Energy Commission;

Selden B. Spangler, '32, as Director of Research, Garrett Corporation, Phoenix, Ariz. . . . Albert O. Wilson, Jr., '38, as a Director, American Leprosy Missions, Inc. . . . Roy C. Heacock, '39, as General Manager, Cryogenics Division, Standard Steel Corporation, Los Angeles;

William K. Hooper, '41, as Vice-president, Republic Foil and Metal Mills, Inc., Danbury, Conn. . . . Franklin K. Pittman, '41, and Allen J. Vander Weyden, Jr., '44, respectively, as Director and Deputy Director, Division of Reactor Development, Atomic Energy Commission . . . George J. Schwartz, '42, as a Director, Associated Industries of Massachusetts . . . Alden A. West, '44, as a Director, Air Force Association.

■ Special honors coming recently to Alumni and members of the Institute's Faculty included:

To Welles Bosworth, '89, a decoration as *Commandeur dans L'ordre des Beaux Arts et des Lettres* for his long-time aid in the restorations of the palace and gardens of Versailles and Trianon, and at Fontainebleau and the Cathedral of Rheims, by the French Minister of Public Education and the Fine Arts;

To E. Sherman Chase, '06, honorary membership, by the Federation of Sewage and Industrial Wastes Associations . . . to J. Newell Stephenson, '09, the Silver Acorn, second highest award in Scouting, by the Governor-General of Canada;

To Earle O. Turner, '14, honorary membership, by the Engineering Institute of Canada . . . to E. P. Brooks, '17, an honorary doctorate of science in commerce, by Drexel Institute of Technology;

To William H. McAdams, '17, its Gold Medal established "to recognize the most distinguished achievements in the utilization of fuels and thermal energy," by the French Institute for Fuels and Energy . . . to C. Richard Soderberg, '20, the Royal Order of the North Star, by the King of Sweden;

To Martin J. Buerger, '24, the Roebling Medal, by the Mineralogical Society of America; and a doctorate *honoris causa*, by the University of Berne, Switzerland . . . to Charles S. Draper, '26, the grade of Fellow, by the American Rocket Society;

To James R. Killian, Jr., '26, its Award of Merit, by the American Institute of Consulting Engineers; an honorary doctorate of science, by Oberlin College; and a Gold Medal for distinguished service to humanity, by the National Institute of Social Sciences . . . to Thomas A. Fearnside, '31, the grade of Fellow, by the American Society of Mechanical Engineers;

## On the Horizon

**January 31, 1959** — 14th M.I.T. Alumni Regional Conference, Detroit, Mich. M.I.T. speakers: Julius A. Stratton, '23, President; George R. Harrison, Dean of the School of Science; John E. Burchard, '23, Dean of the School of Humanities and Social Studies; H. Guyford Stever, Associate Dean of the School of Engineering; Carl F. J. Overhage, Director of M.I.T.'s Lincoln Laboratory; Theos J. Thompson, Director of M.I.T.'s Nuclear Reactor. (For reservations, consult Thomas F. Morrow, '35, Chrysler Corporation, 341 Massachusetts Avenue, Detroit 31, Mich.)

**March 12-14, 1959** — 11th Annual Fiesta, M.I.T. Club of Mexico, Mexico City, D.F. (For reservations, consult Clarence M. Cornish, '24, Margaritas 257, Villa Obregon, Mexico 20, D.F., Mexico.)

To Colonel Leo A. Kiley, Jr., '39, the Legion of Merit, by the United States Air Force . . . to W. Kenneth Davis, '40, its Professional Progress Award, by the American Institute of Chemical Engineers;

To George J. Yevick, '42, the honorary degree of Master of Engineering, by Stevens Institute of Technology . . . to Martin Wohl, '53, the 1958 Past President's Award, by the Institute of Traffic Engineers;

To Richard D. Thornton, '54, the 1959 W. R. G. Baker Award, by the Institute of Radio Engineers . . . to Arthur C. Cope, Professor of Organic Chemistry, the Charles Frederick Chandler Medal for achievement in pure or applied science, by Columbia University.

Included in the 76 leading radio engineers and scientists named for 1959 as Fellows of the Institute of Radio Engineers were the following eight Alumni: Alfred J. Pote, '26; Frank Massa, '27; Peter Elias, '44; J. Ross Macdonald, '44; Samuel J. Mason, '47; John G. Truxal, '47; Malcom W. P. Strandberg, '48; and Benjamin J. Dasher, '52.



Courtesy of Boston Globe, Gil Friedberg, Staff Photographer  
At the soccer game on October 15, Joseph R. Skenderian, '61 (left), and Harvard's Prince Karim, the Aga Khan IV, add excitement. In the final minutes, the Prince kicked a winning (4-3) goal for Harvard. Drafted as varsity goalie in his first soccer game, Skenderian has an enviable record with a total of 100 "saves" in three games this season.

## Proctor Portrait Presented

■ An oil painting of Bernard E. Proctor, '23, Head of the Department of Food Technology, was presented to the Institute as a gift from more than 100 of his former students and classmates during brief ceremonies held in the Department's headquarters in the Dorrance Laboratory on Sunday afternoon, November 23.

The painting, by Jacob Binder, well-known Boston artist, was presented by Earle A. Griswold, and was accepted by J. A. Stratton, Acting President. Dr. Stratton, Dr. Proctor and Mr. Griswold are all members of the Class of 1923 at M.I.T., and the latter two were also classmates in Malden High School. Dr. Proctor, who has headed the Department of Food Technology since 1952, and has been a member of the Faculty for more than 30 years, sat for the portrait last summer.

The proposal for the gift was made by former students in biology and food technology, following the 1956 award to Dr. Proctor of the Nicolas Appert Medal for the year's most outstanding and distinguished contribution to the food industry. The award was made by the Institute of Food Technologists, an international professional society of food science and technology.

Following the official acceptance of the portrait by Dr. Stratton, Mrs. Proctor, who was in attendance, was presented a half-size copy of her husband's portrait, also done by the artist, in a surprise ceremony.

The portrait of the M.I.T. professor, who is an international authority on foods, will hang on the second floor of the John T. Dorrance Building, center of the Institute's studies of food technology and biology.



M.I.T. Photo

Earle A. Griswold (left) presents to J. A. Stratton, Acting President, the oil painting of Bernard E. Proctor, who has been head of the Institute's Department of Food Technology since 1952. All principals in this illustration are members of the Class of 1923. Artist of the portrait is the well-known Jacob Binder of Boston. The gift of the painting was made possible by Professor Proctor's former students, and the presentation ceremony was held on November 23.

## Student Finances and Occupational Health

■ John J. Wilson, '29, President of the Alumni Association for the current year, opened the highly successful dinner meeting of the Alumni Council which was held on November 24 at the M.I.T. Faculty Club. An unusual—even unique—feature of this 334th meeting was that, for the first time in the records of the Council, its members had the pleasure of listening to a woman as one of its guest speakers. She was Dr. Harriet L. Hardy, Assistant Medical Director in charge of Occupational Medical Service. The other speaker of the evening was Thomas P. Pitré, Director of Student Aid at the Institute.

As a regular item of business to be disposed of before the two major addresses, Donald P. Severance, '38, gave the Secretary-Treasurer's report, in which it was announced that: (1) changes in class affiliation had been made for five Alumni; (2) between May 26 and November 20, 1958, there were 28 members of the Alumni Association or members of the Institute's Faculty and administrative staff who visited 25 M.I.T. clubs in the United States and foreign cities, including Tokyo, San Juan, and Montreal; (3) the Executive Committee had voted to drop from its files, as associate members, all but 85 students who attended M.I.T. for war-training purposes but were never enrolled as regular students; these 85 are those who have contributed at one time or another to the Alumni Fund and for whom addresses are known.

Alf K. Berle, '27, member of the Alumni Fund Board, reported that 5,500 Alumni had contributed \$161,000 to the Fund as of November 24. These figures are 20 per cent higher in number of contributors and 33 per cent greater in amount than at the corresponding period a year ago.

In speaking on Financial Aid to Students, Dean Pitré reviewed operations in this field since 1951 when he was appointed director of student aid. His office has been established to co-ordinate financial assistance given to students in the form of scholarships, loans, and employment during the school year. Co-ordinated aid to students has become necessary now that the cost of undergraduate education at the Institute is approximately \$11,000 to \$12,000.

Educational institutions across the nation have formed the College Scholarship Service (of which M.I.T. is a member) to collect, standardize, and analyze financial information from families of students, so all participating colleges are able to offer essentially the same degree of monetary assistance to a particular student. This practice has encouraged self-regulation and reduced competition among participating educational institutions.

Dean Pitré presented statistics to show the growth of scholarships, loans, and student earnings from 1952 to the present time. During this period, the number of scholarships has increased from 636 to 976; scholarships awarded in 1952-1953 amounted to \$266,000 as compared with \$955,000 in 1958-1959. The total aid in scholarships and loans was \$430,518 in 1952-1953 and for the current year stands at \$1,450,000. Whereas 1,000 students earned \$190,000 during the school year 1952-1953, for the current year it is estimated that 1,200 students will earn \$500,000.

Speaking on Occupational Health at M.I.T., Dr. Hardy reviewed the work of physicians, chemists, engineers, and radiological safety officers who take every possible step to prevent harmful effects of toxic chemicals, toxic dusts, and damaging levels of radioactivity. In addition to a straight service activity, this group does teaching from time to time in different departments, and has a modest research program in progress. Since 1950 Dr. Hardy has devoted much of her time to the development of the Occupational Medical Service at M.I.T. with the title of Assistant Medical Director.

Dr. Hardy traced the history of the Occupational Medical Service from 1944 when the Institute first engaged consultants from the Massachusetts General Hospital and from the Harvard School of Public Health. M.I.T. was the first educational institution

in this country or abroad to undertake this service.

Dr. Hardy described at length the operation of the Occupational Medical Service under its concept of advising and teaching rather than policing. She described the day-by-day work of the Service, citing several extraordinary examples of the emergencies and new situations that are bound to arise in a place where new materials and new techniques are constantly being used or developed.

Dr. Hardy spoke at length about some of the specific problems connected with Lincoln Laboratory with its uses of ever-increasing high energies in microwave work, and the unusual precautions associated with the nuclear reactor and the various high-energy x-ray machines and particle accelerators. Dr. Hardy closed with a brief discussion of some of the research being carried on by members of the staff.

## Emeriti Luncheon

■ The annual fall luncheon of members of the M.I.T. Emeriti Group was held on Wednesday, November 19, at the M.I.T. Faculty Club. Thirty-two retired members of the Institute's Faculty and Administration were present. Principal speakers included: Joseph H. Keenan, '22, new Head of the Department of Mechanical Engineering; and J. A. Stratton, '23, then Acting President of the Institute.

Professor Keenan, who has long been recognized as an authority on steam tables, spoke about a trip he had made recently to attend the International Conference on Steam Tables, held in Russia. His comments also included observations on life in Russia and comments on the Russian educational system.

Dr. Stratton spoke very interestingly and earnestly about the long-range plans of the Institute.

Other members of the M.I.T. Faculty whose addresses brightened this annual occasion included: Frederick G. Keyes, Professor of Physical Chemistry, Emeritus; and Jerome C. Hunsaker, '12, Professor of Aeronautical Engineering, Emeritus.

## Engineering Our Future

■ Approximately 400 scientists and industrialists, including many Alumni of the Institute, attended the 13th M.I.T. Regional Conference at Albuquerque, N.M., on Saturday, November 8. The conference, held in the Albuquerque National Bank Building, was sponsored by the M.I.T. Club of New Mexico and was devoted to "Engineering Our Future."

Members of the Institute's staff who took part in the program were: James R. Killian, Jr., '26, on leave as Special Assistant to the President for Science and Technology; J. A. Stratton, '23, then Acting President of M.I.T.; George R. Harrison, Dean of the School of Science; Charles S. Draper, '26, Head of the Department of Aeronautical Engineering; and Charles L. Miller, '51, Assistant Professor of Surveying, and Director of the Photogrammetry Laboratory. James W. McRae, Vice-president of the American Telephone and Telegraph Company, and former President of Sandia Corporation at Albuquerque, and James A. Phillips, group leader of the Physics Division, Los Alamos Scientific Laboratory, also delivered addresses.

Frederick J. Given, '19, Vice-president of Sandia Corporation, was toastmaster at the evening dinner, and general chairman for the conference.

During the morning session of this full-day event, Bennett L. Basore, '52, President of the M.I.T. Club of New Mexico, opened the meetings with an address of welcome, and a response was made by J. R. Modrall, chairman of the Board, Albuquerque National Bank. Tom Popejoy, President of the University of New Mexico, was moderator for the morning program, during which Dr. McRae spoke on "The Challenge," and Professor Miller discussed "Civil Engineering and the Future."

The afternoon session was moderated by E. J. Workman, President of the New Mexico Institute of Mining and Technology. Dean Harrison spoke on "Energy and the Future"; Dr. Phillips' topic was "Progress in Using Fusion Energy"; and Dr. Draper's subject was "Space Science."

During the evening session, Dr. Stratton spoke on "Science and the Federal Government." Concluding the addresses, Dr. Killian talked of the future role of scientists and engineers.

A pleasant feature of the evening was the presentation to Mr. Given of an award honoring him as a "Loyal Alumnus of the Class of 1919 . . . whose manifold accomplishments since graduation have culminated in his being 'Mr. M.I.T. of New Mexico.'"



*C. E. Redman*  
John J. Wilson, '29 (left), President of the Alumni Association, presenting certificate to Frederick J. Given, '19.

## LeMoyne White: 1914-1958

■ Dr. LeMoyne White, staff psychiatrist in the Institute's Medical Department, died at the Peter Bent Brigham Hospital on December 9, 1958, after a brief illness. In the short time since his appointment at M.I.T. in 1956, Dr. White had made a warm place for himself with both students and staff. He not only brought to the Institute's Medical Department unusual professional skills and experience, but also gave very substantial assistance to M.I.T. admissions and counseling activities.

Born in Los Angeles in 1914, Dr. White was a graduate of the Kent School, Harvard College, and Harvard Medical School. In addition to serving as chief psychiatrist at M.I.T., he was also associate psychiatrist at the Massachusetts General Hospital, and on the teaching staff of the Harvard Medical School. Dr. White took his psychoanalytical training at the Boston Psychoanalytic Institute. During World War II, he was a flight surgeon with the Army Air Transport Command.

Dr. White had also been associated with the Boston Psychopathic Hospital, the Harvard School of Public Health, and the Massachusetts Eye and Ear Infirmary.

Dr. White is survived by his wife, Mrs. Alice Patricia Farley White, and four children — Wendy Pierrepont, Benjamin LeMoyne, Stephen Eliot, and Cornelia Farley White — and his father, C. Carroll White. His home was at 29 Hilltop Road, Chestnut Hill, Mass.

## Twenty-five Years Ago This Month . . .

■ Editor James R. Killian, Jr., '26, in *The Review* for January, 1934, observed that "air transport is developing so rapidly that articles about it are almost sure to be out of date when they finally reach the reader." Nevertheless, he thought "the chance is worth taking," and commissioned Daniel C. Sayre, '23, to tell what the airlines had accomplished up to then in providing quiet, comfort, and reliability.

"It is going to be difficult," began Author Sayre, "to get used to the idea of airplane transportation as a middle-aged institution, but it did have its 30th birthday a few weeks ago. Nothing can get past that milestone and still be considered a youngster except an occasional movie star, the Prince of Wales, and some geological processes.

"Even more strange to those who knew the airplane in its rugged youth is the increasing attention designers and operators are paying to such middle-aged things as quiet, comfort, and a reputation for safety and reliability. Not so many years ago an airplane passenger received about the same consideration as a customer on an amusement park roller coaster, who is told to hold his hat and not stand up, and then sent off in a rush of noise, wind, and nausea.

"An airplane is no magic carpet even now, but the trend toward gentility is on. Booking agents already are looking you in the eye and urging airplane travel not only because it is faster, but also because it is cleaner, more comfortable, and even quieter.

"As long as the design of the entire airplane was left up to the aeronautical engineer, little progress

was made in reducing the noise level within the cabin . . . [but] when the acoustical experts were finally called in, [they realized] the possibility of insulating the cabin interior from the source of the noise. . . . Special care is taken in insulating by rubber the frame of the airplane from engine vibration at the engine mounts. The floor, chair supports, windows, and ventilating and heating system are in turn rubber insulated from the frame. . . . The future may see quieter running engines and geared propellers . . . but in any case the noise level is now reduced to 70 decibels, or somewhat below that in Pullmans, which run between 70 and 80 decibels.

"Less spectacular than the new quiet, but also adding greatly to passenger well-being, are recent trends in ventilating and heating. Gone are the direct exhaust pipe heaters and open-window ventilation systems. . . . Heat control is thermostatic, and a temperature of 70° F. can easily be maintained with sub-zero external conditions. . . .

"The new cabins are roomier, with six-foot headroom, 40-inch seat spacing, and wider aisles. Airplane chair design has been carried to the ultimate in posterior luxury. . . . The air passenger is also provided with free reading material, maps of the route, and periodic hot bouillon snacks. . . . On some airlines the stewardesses serve substantial meals in flight, which obviously limits the menu choice . . . [but] they make no charge for them.

"Infinitely more serious, of course, than any considerations of creature comfort are those of operating safety and reliability. Unfortunately, the problems encountered are correspondingly more difficult. It would appear from what statistics are available that the airlines since the opening of the passenger-carrying era have stressed (and quite rightly) progress toward safety rather than heroic attempts to complete all scheduled flights. . . . Technical advances in engine and airplane design, in de-icing equipment, in flight instruments, and in radio aids to navigation have so far proved effective in bettering the safety record, and increasing regularity.

"The chief major technical difficulty now between present percentages of schedules flown and perfect achievement is that of blind landing equipment and technique. The magnitude of this problem must not be underestimated. It is true that several different types of equipment have proved experimentally successful. It is also true that three airports are at present equipped with landing beams. The popular idea, however, that airlines will be making routine all-fog flights within a few months is far too optimistic. . . . A few years, rather than a few months, will be needed.

"But some day come it must and with it one of the most spectacular achievements in modern transportation; spectacular, that is, from the point of view of the transportation operator. . . . When the take-off, trip, and landing are all carried out in fog, the view from the cabin will closely resemble that from a white-tiled subway without stations. . . . Even in clear weather, the average passenger finds plane travel rather dull, unless he can interest himself in large-scale structural geology or the vagaries of cloud formations. . . ."

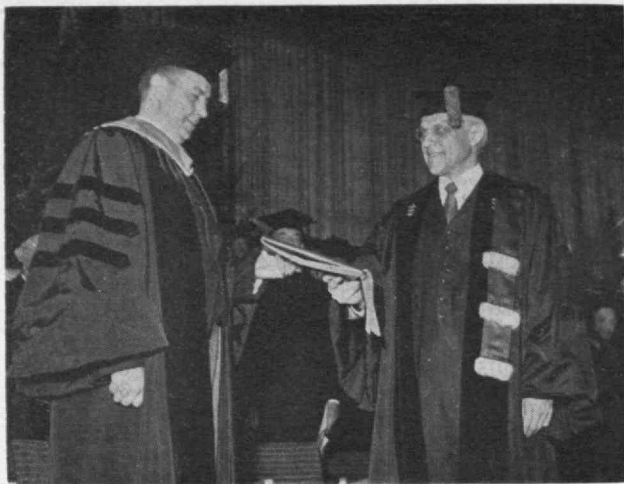


Photo by Arthur Griffin

# Decade in Review

*Inauguration of James R. Killian, Jr., '26, took place in Rockwell Cage on April 2, 1949, as Karl T. Compton turned over the Institute's charter to the first Technology graduate to become President of M.I.T.*

**Remarkable growth and activity marked M.I.T. progress during the Killian administration**

## A TECHNOLOGY REVIEW REPORT

**M**OMENTOUS changes took place at M.I.T. a decade ago. Under the heading, "New Era for Technology," the November, 1948, issue of *The Technology Review* announced a change in the administration of M.I.T. in these words:

"Acting on the recommendation of Karl Taylor Compton, since 1930 President of M.I.T., the Corporation elected James Rhyne Killian, Jr., '26, to become the next, and tenth, president of the Institute, at its meeting on October 4. In his new position, Dr. Killian is the first graduate of M.I.T. to have the honor of becoming its president."

At its meeting on December 1, 1958, the M.I.T. Corporation: (1) advanced Dr. Killian to the post of Chairman of that body; (2) elected Julius A. Stratton, '23, to be the 11th President of M.I.T., effective on January 1, 1959; and (3) named Vannevar Bush, '16, to the newly created post of Honorary Chairman of the Corporation. These actions of the Institute's corporate governing body have already been reported to Review readers by means of a special announcement printed at the last minute, just in time to be bound in the December, 1958, issue as a separate tip-in, page 64A.

As a new year opens and a new administration becomes responsible for managing M.I.T. affairs, it is appropriate to review the major events that have taken place during the decade of Dr. Killian's administration — October 4, 1948, to January 1, 1959. In a world which daily becomes increasingly dependent on excellence in education, it is also proper to try to place the achievements of this significant period in

perspective with regard to the Institute's present hopes, aspirations, and needs.

Certainly, William Barton Rogers faced unusual difficulties in founding the Massachusetts Institute of Technology, Francis Amasa Walker had to clear many hurdles in transforming a struggling new school into the nationally known "Boston Tech," and Richard C. Maclaurin undertook a herculean task in establishing a new M.I.T. in its present Cambridge location. During the great depression Karl T. Compton developed the Institute's School of Science into one of the nation's strongest. Through his own personal example he brought a new concept of public service to the academic environment, established the Radiation Laboratory as the first great co-operative university research organization engaged in national service, and during World War II transformed the Institute into a training center whose primary concern was preservation of a free way of life.

*The Tech*



*Before an overflow audience in the Boston Garden on April 1, 1949, President Killian presented to Sir Winston Churchill a certificate designating him as honorary lecturer at M.I.T. Joining in the general applause were Karl T. Compton, John E. Burchard, '23, and former Governor Paul A. Dever.*

TABLE I

## CHANGES IN CERTAIN M.I.T. OPERATIONS DURING PAST DECADE

Year	No. of Undergraduate Students	No. of Graduate Students	No. of Faculty Members	Other Staff Members	Total Academic Expenses	Indirect Expense Applicable to Sponsored Research	Total Invested Funds	Gifts and Grants	Book Value of Educational Plant
1948-49	3,831	1,602	435	861	\$ 9,990,055	\$ 398,111	\$47,174,682	\$ 2,536,802	\$22,243,619
1949-50	3,856	1,602	436	940	10,861,349	430,382	50,994,003	6,528,089	24,213,962
1950-51	3,496	1,675	457	999	11,042,789	465,343	54,409,586	9,145,107	28,577,539
1951-52	3,154	1,720	480	1,051	12,501,288	623,430	57,771,329	6,953,106	31,364,731
1952-53	3,153	1,921	503	1,092	13,673,213	798,451	59,939,591	6,231,894	33,064,982
1953-54	3,227	1,956	515	1,047	13,692,928	1,031,915	63,083,524	5,117,043	34,417,430
1954-55	3,481	1,867	534	1,105	14,812,395	1,122,802	71,830,729	7,074,857	36,086,005
1955-56	3,656	1,992	582	1,177	17,098,759	1,157,828	79,292,272	10,387,287	37,919,971
1956-57	3,688	2,312	607	1,249	19,488,774	1,333,492	84,161,131	8,498,000	41,308,735
1957-58	3,664	2,515	625	1,324	20,905,396	1,549,079	88,374,694	7,732,039	43,250,972

Exceedingly difficult problems, unusual in scope and magnitude, have likewise been encountered in the past decade. The brilliant administration of M.I.T. affairs during this period has enhanced the Institute's leadership and brought it extraordinary international responsibility.

### Campus Changes

The major changes on the Institute's campus that have occurred during President Killian's administration have radically altered the face of a sizable portion of Cambridge. The ground area of the Institute's physical plant has increased about 50 per cent, the book value of its educational plant has doubled in the past decade, and excellent progress has been made toward transforming M.I.T. into a residential college. Undergraduate enrollment today is substantially unchanged from what it was a decade ago, but the total student body showed a gain of 14 per cent due to 57 per cent increase in the number of graduate students. As may be deduced from Table I, the number of Faculty members increased 43.5 per cent, and total academic expenses more than doubled in the

last decade. Although total invested funds have increased 88 per cent, during the Killian administration, Table II shows that today only 9 per cent of M.I.T. income is derived from investments, compared to 13 per cent a decade ago.

Since the end of World War II, much of the Institute's program has been greatly influenced by continued international tensions which, in 1950, broke out into the Korean War. Throughout the nation, the demand for technically trained personnel substantially exceeded the supply during all of the past decade. In a world of technology, modern requirements for national defense required the Institute to engage in research projects of unprecedented scope and magnitude. Indirect income from research now provides 30 per cent of the Institute's income as against 15 per cent a decade back.

In October, 1957, the launching of the first artificial satellite catalyzed action to maintain the nation's leadership in science and technology as nothing else had done. In a very real sense, the force of world events required President Killian to take leave of absence from his M.I.T. post in November, 1957, for his extraordinary abilities were required to serve the nation as Special Assistant for Science and Technology to the President of the United States. Thus was set into motion a chain of events which, as of January 1, 1959, opens another "new era for Technology" under the administration of President J. A. Stratton, '23.

Underlying, and basic to, the vast program which marks Technology's progress over the past 10 years, is the continued emphasis on improving the Institute's educational program. It is especially in this area that the Institute's new president has worked quietly but effectively, with Dr. Killian for many years. Indeed, as M.I.T.'s first Provost, Dr. Stratton's major concern was to make certain that the Institute's teaching program was modernized so as best to meet today's exacting educational requirements; later, as Chancellor, administrative problems at the highest level were also added to Dr. Stratton's responsibilities.

Thus, in reviewing the events of the past decade, it is comforting to know that Dr. Killian and President Stratton have worked together for many years, unceasingly and harmoniously, to promote the Institute's primary objective — excellence in education.

TABLE II

## HOW M.I.T. OBTAINS AND SPENDS ITS MONEY

INCOME			
Item	1948-1949	1952-1953	1957-1958
Tuition	\$3,705,424	\$3,806,320	\$6,485,329
Investments	1,323,607	1,450,613	1,913,101
Gifts and Other Funds	2,189,252	2,985,157	4,480,543
Research Contracts			
Indirect Income	1,489,028	3,772,878	6,211,252
Housing and Dining	1,223,023	1,678,818	1,815,171
Total	\$9,930,334	\$13,693,786	\$20,905,396
EXPENSES			
	1948-1949	1952-1953	1957-1958
Academic Expenses	\$5,040,601	\$5,837,880	\$8,717,623
General Administration	2,341,776	3,501,387	7,149,325
Plant Operation	1,404,784	2,656,110	3,209,859
Housing and Dining	1,202,893	1,677,836	1,828,589
Total	\$9,990,054	\$13,673,213	\$20,905,396

Upon successful conclusion of the campaign for funding ► the Institute's independence, a Victory Dinner was held at New York's Waldorf-Astoria Hotel on May 3, 1951, to honor Alfred P. Sloan, Jr., '95, and members of the Committee on Financing Development. Mr. Sloan is shown receiving a volume of 2,000 signatures in testimony of his leadership in American industry and education.

### Mid-Century Convocation

Two major events early in Dr. Killian's administration brought the Institute into sustained nationwide public attention. The first of these was the Mid-Century Convocation in April, 1949; the second was the launching of the important program of the Committee on Financing Development.

The May, 1949, issue of *The Review* — an issue that broke all records in its size and circulation — recorded that "Boston and Cambridge were the focal points of world-wide attention when the Massachusetts Institute of Technology held its Mid-Century Convocation on the Social Implications of Scientific Progress on March 31 and April 1, to be climaxed on April 2 by the inaugural of James R. Killian, Jr., '26, as the 10th president of Technology. The combined convocation and inauguration was the occasion for hundreds of scholars, administrators, and other leaders in the field of education to come to M.I.T., to listen to major addresses by the Right Honorable Winston Churchill; Harold E. Stassen, President of the University of Pennsylvania; James R. Killian, Jr., '26, first M.I.T. graduate to become its administrative head; Karl T. Compton, Chairman of the M.I.T. Corporation; and John E. Burchard, '23, Dean of the School of Humanities and Social Studies. It was the occasion for nearly three dozen eminent scholars to examine the material, spiritual, and intellectual aspects of Twentieth Century progress, which has been dominated very largely by science and technology. It was the occasion for 18,000 Alumni and other friends of M.I.T. to converge on Cambridge and Boston in such numbers as seriously to tax living accommodations which these two cities had to offer. Even Boston's largest hall — the Garden — with a capacity of 13,909 could not seat at one time all those who were drawn 'back to Tech' by the brilliant three-day event."

By word and photograph this auspicious event was adequately chronicled in the May, 1949, issue of *The Review*. The scholarly addresses and discussions on the social implications of science were merely summarized in this contemporary account of events, but are recorded in detail in the book *Mid-Century: The Social Implications of Scientific Progress*, published by the Technology Press of M.I.T. and John Wiley and Sons, Inc. of New York.

The largest single gathering ever to attend an M.I.T. event took place on April 1, 1949, when Sir Winston Churchill delivered his address, "The Twentieth Century — Its Promise and Its Realization," to a capacity audience at Boston Garden. An overflow "was accommodated in the Rockwell Athletic Cage in which about 3,500 persons saw and heard Winston Churchill make his address" by television. Sir Winston's message might be summarized by the following quotation from his address: "Those whose minds are attracted or compelled to rigid and sym-



Sam Vandivert

metrical systems of government should remember that logic, like science, must be the servant and not the master of man." At the conclusion of this address, Mr. Churchill was presented with a certificate making him an honorary lecturer of M.I.T., which does not award honorary degrees.

### Inauguration

Climax of the three-day celebration was the impressive and colorful ceremony in which Dr. Killian was inaugurated as Technology's 10th president. In addition to 500 academic delegates, 4,500 persons in Rockwell Athletic Cage and an overflow of 1,400 in the Great Court were on hand for the great occasion.

In his address of welcome, Dr. Compton made brief and modest reference to his own administration:

"The intervening years have been full of emergencies and problems; first the great depression; then the slow recovery; then the great World War; then the period of reconversion to peace; and now the threshold of a new era. Through these vicissitudes the institution has weathered its difficulties and has exploited its new opportunities and has come through stronger than ever before.

"I am convinced that this successful record is due to several factors. One of these is the complete devotion of the administration and staff to their respective duties. Another is the unswerving decision to place service to the public ahead of personal or institutional gain. Above all, there has been clearly proven the essential value of the Institute's purpose and performance."

At the conclusion of Dr. Compton's address, President Killian was invested with the symbol of his office by conveying to him the Institute's charter of incorporation, as shown in the illustration at the head of this article. For a brief moment photographers' flashbulbs intermittently illuminated the scene as though a Fourth of July celebration were in progress. When this display of artificial lightning was over, President Killian delivered his inaugural address, which appeared in the May, 1949, issue of *The Review*. Perhaps the theme of Dr. Killian's inaugural address may be summarized by his remark, "Our preoccupation in America with the common man should not let us forget that our advancement depends upon the uncommon man. This is particularly true in education."



Photos—M.I.T. Photographic Service unless otherwise indicated

Symbolic of the Institute's two schools which were brought into being during the past decade are the Sloan Building (left) housing the School of Industrial Management and the M.I.T. Faculty Club, and the Exhibition Gallery (right) in the Hayden Memorial Library, in which the School of Humanities and Social Studies is located.

### Development Program

In January, 1949, the 50th anniversary issue of *The Review* recorded the opening of a major program for funding M.I.T.'s independence. The golden anniversary issue comments: "Charged with the responsibility of raising \$20,000,000 for additional endowment and for new facilities for M.I.T., the Committee on Financing Development will have the leadership of two nationally known Alumni: Marshall B. Dalton, '15, President of the Boston Manufacturers Mutual Fire Insurance Company, and of the Mutual Boiler Insurance Company; and Alfred P. Sloan, Jr., '95, Chairman of the Board of General Motors Corporation." Aiding these men as Assistant Executive Director of the Committee on Financing Development was Ralph T. Jope, '28, then, as now, Business Manager of *The Review*.

The aims and purposes of the development program were outlined by President Killian in an article, "Funding M.I.T.'s Independence," in *The Review* for January, 1949. The President's Report for 1949 also recorded the launching of the Development Program. In 1950, President Killian was able to record that the fund had reached the \$15,500,000 mark. Two years after the program was launched, its leaders (who had worked actively and harmoniously with 700 other loyal Alumni) readily achieved the stated goal. The Victory Dinner in New York's Waldorf-Astoria Hotel on May 3, 1951, honoring Alfred P. Sloan, Jr., '95, marked the successful completion of this fund, which exceeded the original goal by \$5,000,000, for the fund was oversubscribed by 25 per cent.

A few years later, Messrs. Sloan and Dalton again volunteered to raise funds, this time for new science laboratories to be erected as a memorial to President Karl T. Compton, whose untimely death occurred on June 22, 1954. Once more the stated goal was readily achieved, and on January 4, 1956, its successful completion was again announced at the Waldorf-Astoria.

### The Institute's Educational Program

Although of fundamental importance, progress made in advancing the Institute's teaching and edu-

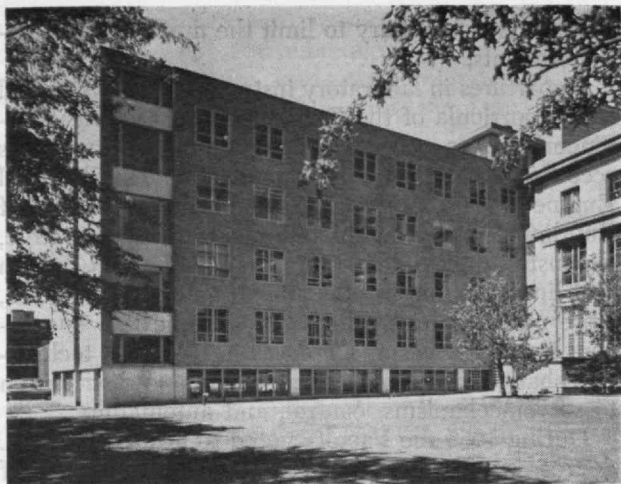
cational program is not easily displayed. No tangible, physical monument is erected for good teaching, nor would architectural structures adequately reflect the real worth or true value of an extraordinary educational program. Yet the world looks to, and depends upon, exceptional students and the excellence of their education for its betterment.

The increasing scope and importance of the Institute's educational program was emphasized in 1949 with the establishment of the new position of Provost, to which J. A. Stratton, '23, was appointed, effective on April 15. In announcing the appointment of Dr. Stratton, the June, 1949, issue of *The Review* reports President Killian as saying:

"The Corporation and my associates in the Institute's Administration feel that Professor Stratton is ideally qualified for educational administration. His background both in electrical engineering and physics, his brilliant direction of the Research Laboratory of Electronics, and his membership on the Institute's Committee on Educational Survey have provided him with an extraordinarily rich background for his new responsibilities. To all of his many assignments at the Institute he has brought a depth of understanding of education and of research which will be of inestimable value to our over-all program. I am personally delighted and reassured to have him as an administrative colleague and to have available his wise and judicial counsel in discharging my own duties as president."

Colleges have fiscal as well as educational problems and a brief summary of the Institute's financial operations over the past decade is given in Table II. Dormitory operations (housing and dining) are self-supporting, but income from tuition meets only two-thirds to three-quarters of academic expenses and leaves nothing for administration or plant operation.

In 1949 a degree of professional engineer was authorized by vote of the Faculty. This degree was to be awarded to persons who had completed an educational program at the doctorate level but whose anticipated professional careers would not require conduct of original research. About the same time, the Chemical Engineering Practice School at Oak



*Devoted to scientific and engineering studies on the structure and behavior of metals, the Metals Processing Laboratory (left), dedicated on June 3, 1952, is administered by the Departments of Metallurgy and of Mechanical Engineering. The Dorrance Building (right), dedicated on June 25, 1953, tallest structure on campus, houses the Department of Biology and the Department of Food Technology.*



*Gottsch-Schleisner*

Ridge, Tenn., began to attract students in mechanical, nuclear, and electrical engineering as well as in chemical engineering.

A Faculty Committee on Educational Survey, appointed in 1947 by President Compton, completed its study of postwar educational policy and in 1950 issued a thought-provoking report which was to guide future M.I.T. programs. A broader and more intense program of study for M.I.T. students was recommended by the Committee, including establishment of a School of Humanities and Social Studies to recognize and emphasize the importance of general studies in the education of scientists, engineers, architects, and managers.

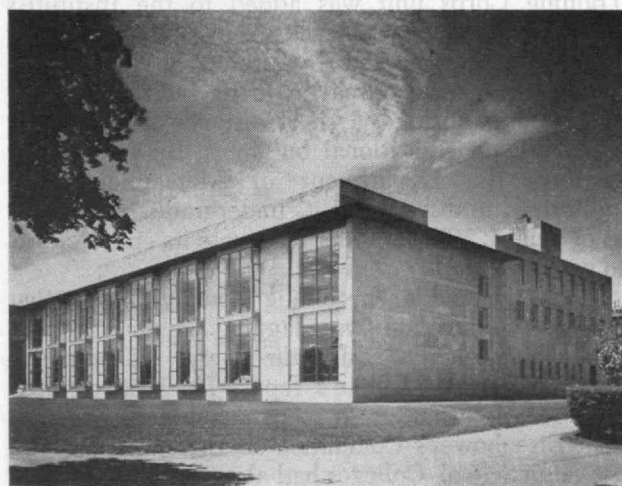
### **Two New Schools**

In 1950 the School of Humanities was established with John E. Burchard, '23, as its dean. About the same time, the School of Industrial Management was also established, under the stimulating guidance and interest of Alfred P. Sloan, Jr., '95. Former Vice-president of Sears, Roebuck and Company, E. P.

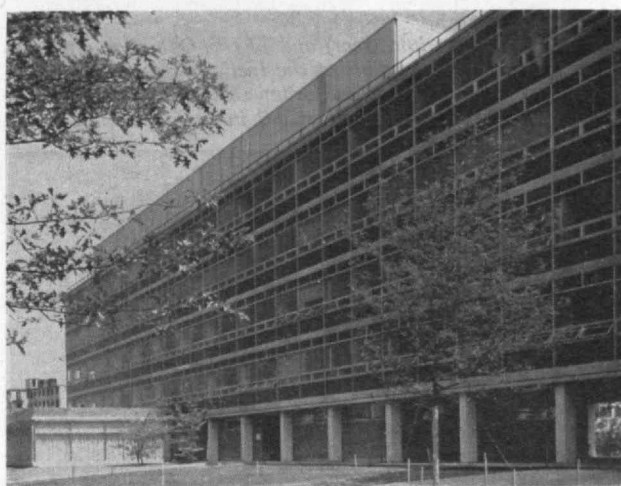
Brooks, '17, became dean of that School in 1951. Thus, in rapid succession the Schools of Engineering, Science, and Architecture, with which M.I.T. had made a great reputation, were joined by two new schools.

With the Korean War in progress, increasingly serious attention was given to "the road ahead" in Technology's educational program. Enrollment in the Graduate School took a sudden upswing. Greater effort, than at any time since the end of World War II, was devoted to national defense aspects of research and education, and members of the Institute's Faculty and staff undertook several confidential "project studies" for the United States government. One of these subsequently led to the establishment of the Lincoln Laboratory.

In his annual report for 1952, President Killian emphasized the conviction that the undergraduate program is the core of M.I.T. activity. Although scientists and engineers continued "in short supply," the Freshman Class entering in 1952 increased more than 200 over the class which entered a year earlier: instead of 800 planned for, 943 students enrolled.



*The Charles Hayden Memorial Library (left) is the principal depository for the Institute's library of 634,000 volumes and 3,100 periodicals, and also houses offices of the School of Humanities and Social Studies. It was dedicated on May 19, 1950. The Karl Taylor Compton Laboratories building (right) was dedicated on June 10, 1957. It is headquarters for the Research Laboratory of Electronics and for the Laboratory for Nuclear Science, and contains a large lecture hall for undergraduate instruction in physics.*



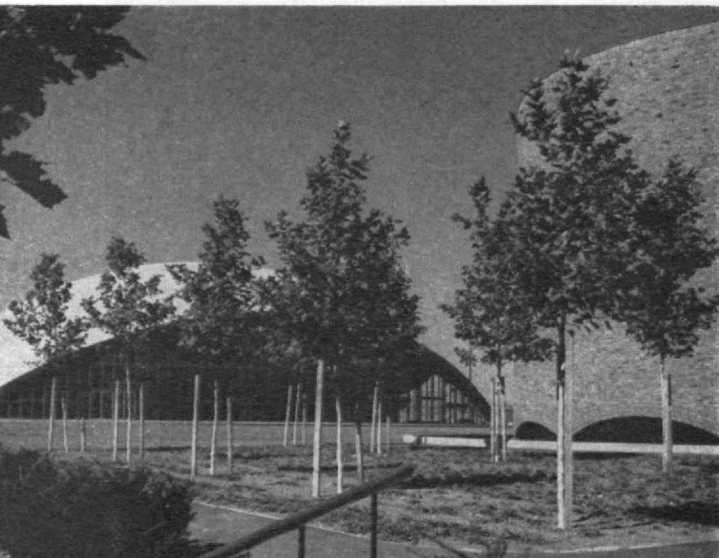


*Located in a beautiful and secluded section of Dedham, the Endicott House is frequently used for conferences, symposia, or study groups who find its environment pleasant and intellectually stimulating.*

The School of Industrial Management got well under way, first by moving into the new Sloan Building and then by graduating 48 students and enrolling 18 Sloan Fellows in a new program of executive development.

A year later, 1953, two groups of 17 men each began a new Sloan program for Executive Development. The first year curricula at M.I.T. were modified to permit freshmen greater flexibility in choice of study subjects and to reduce the number of required classroom hours; at the same time, the program of general education at M.I.T. was recast. The Department of Building Engineering and Construction was consolidated with the Department of Civil and Sanitary Engineering, and a Division of Biochemistry, within the Department of Biology, was established. As the Department of Biology was able to move from Building 10 into new quarters, in the recently completed Dorrance Laboratories, the Department of Electrical Engineering expanded to occupy space on all floors of Building 10. The increased enrollment and limited space for all who desired a Tech educa-

*The Kresge Auditorium (rear) and M.I.T. Chapel (right foreground) are the focal points of the Institute's social, religious, and music activities. The Auditorium seats about 1,200 people in its main section, and another 200 in its Little Theater.*



tion made it necessary to limit the number of incoming students.

Departures in laboratory instruction in physics and in the curricula of the Department of Electrical Engineering were among the major educational activities recorded in the 1955 President's Report. Electrical Engineering laboratories on the first two floors of Building 10 were completely modernized; the large, expensive, inflexible motors and generators, which had limited value as educational and research tools, were replaced by smaller and more flexible energy-conversion devices as emphasis in electrical technology changed from power generation and distribution to servomechanisms, control, and automation.

During 1955 the Faculty voted to award the Sc.D. degree in Nuclear Engineering, as this branch of technology assumed increasing importance. With the opening of the 1955 Summer Session, tuition at M.I.T. was increased from \$900 to \$1,100 per year. During 1955 the Faculty approved establishment of Course XXI, interrelating science, engineering, and the humanities, and the new laboratory programs in physics and electrical engineering attracted nationwide attention.

### Event of the Year

According to President Killian's annual report for 1956, "The most notable event of the year was the election of Julius A. Stratton, '23, to the newly established post of Chancellor." Primarily engaged in advancing the Institute's educational program as Provost, Dr. Stratton's responsibilities in high-level administration were substantially increased with his new appointment. But increased duties, which placed a heavy burden upon him, were also coupled with unusual opportunities to prepare Dr. Stratton for the still greater presidential duties that were soon to fall upon his shoulders.

A School for Advanced Study was evolved and its formation was announced in New York on January 4, 1956. Martin J. Buerger, '24, was named director of the new M.I.T. facility for post-doctoral scholars. During the summer of 1956, a Naval Reserve Officers' Training Corps unit was added to the Institute's program in Military Science. The 1955-1956 school year was also marked by ground-breaking ceremonies for a nuclear reactor to be built on Albany Street in Cambridge, a short distance from the Institute's main educational buildings. By vote of the Faculty, the Department of Meteorology was authorized to discontinue its undergraduate program as of June 1, 1956, in order to devote its entire efforts to graduate work.

With the public becoming acutely aware that American education was lagging behind modern needs of a highly industrialized and technological nation, President Killian's report for 1956 devoted considerable attention to recommendations of President Eisenhower's Committee on Education Beyond the High School. Colleges had already felt the effects of inadequate preparation on the part of too many of their entering freshmen and the deficiency was most apparent in science curricula. To offer effective aid in improving the teaching of high school physics, M.I.T. sponsored the Physical Science Study Com-

mittee. Scholars from all parts of the nation joined this group and worked effectively to develop new textbooks, laboratory apparatus, motion picture films, and other educational aids for high school physics teachers and students. During the 1956-1957 academic year, the School of Industrial Management celebrated its first five years of operation, and Course VI-B, in Electrical Science and Engineering, was authorized by vote of the Faculty.

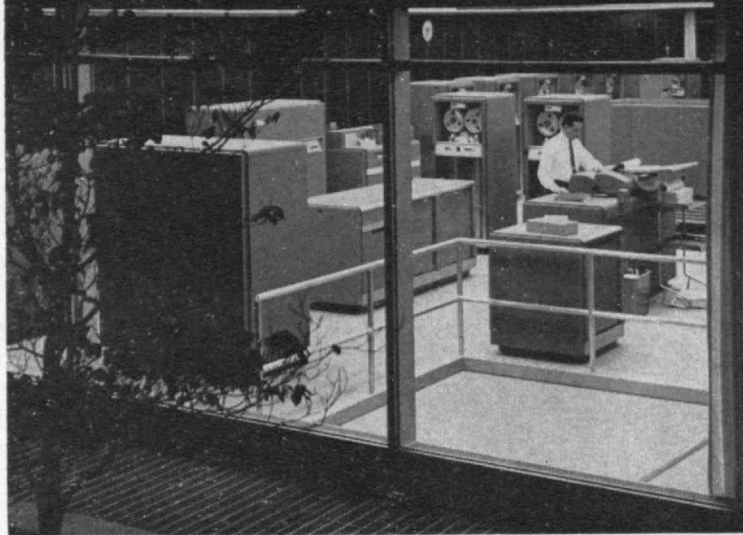
### Significant Appointment

The Institute's educational program felt the effects of launching of the first Sputnik when Dr. Killian was called to a new and highly important post in Washington, in November, 1957. Accordingly the annual report to the M.I.T. Corporation for 1958 was made by Acting President Stratton. In his report for the year, Dr. Stratton remarked:

"The most significant event of the academic year 1957-1958 was the appointment last November of Dr. James R. Killian, Jr., as Special Assistant for Science and Technology to the President of the United States. He was called to Washington at a moment when M.I.T. was most in need of his great, constructive energy. But on the larger national scene, his departure reflected a mounting concern for the state of science in this country. It was evidence of a new national awareness that the hopes for our survival as a free and prosperous nation rest in large measure upon the quality of our education and upon our capacity for scientific research."

Emphasizing excellence in education in his report, as he had so often done in his teaching, research, and administrative careers, Dr. Stratton also reported:

"Public service, defense research, and the broad advancement of scientific knowledge are essential parts of the total mission of M.I.T. But we bear ever in mind that our first obligation, our foremost con-

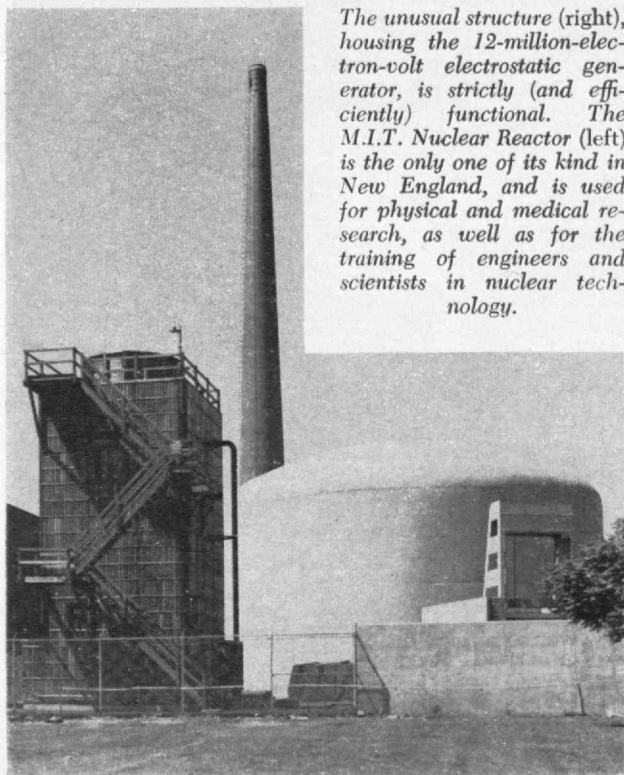


*The I.B.M. 704 computer, in a special one-story wing of the Compton Laboratories, is used co-operatively by colleges in New England on an "around-the-clock" basis.*

cern, must be for the education of our students. . . . There rests upon such an institution as ours . . . a heavy responsibility to provide the highest standards of excellence, to set new patterns, to give leadership, and to lift the sights of all."

Specific actions occurring during the year that lent emphasis to Dr. Stratton's remarks were: (1) the establishment of the Department of Nuclear Engineering and completion at M.I.T. of the first stationary nuclear reactor in New England; (2) the initiation of the Karl Taylor Compton lectures delivered by Nobel laureate Niels Bohr; (3) transfer of the successful work of the Physical Science Study Committee to the newly formed Educational Services, Inc.; (4) Faculty authorization to award the Ph.D. degree in Political Science; (5) establishment of a new Center for Communications Sciences; and (6) formation of the Mitre

*The unusual structure (right), housing the 12-million-electron-volt electrostatic generator, is strictly (and efficiently) functional. The M.I.T. Nuclear Reactor (left) is the only one of its kind in New England, and is used for physical and medical research, as well as for the training of engineers and scientists in nuclear technology.*





*Burton House (above) and Baker House (below) accommodate about 900 students. Acquisition and construction of these dormitories have gone a long way toward transforming the Institute into a residential college.*

Corporation to undertake major responsibility for systems research for air defense. Thus the Lincoln Laboratory, under the able direction of Carl F. J. Overhage, and M.I.T. itself should ultimately become free to devote a greater portion of their efforts to academic research, rather than to the development of "hardware" for national defense. These events, under Dr. Stratton's interim appointment as the Institute's acting chief executive, are clearly concordant with those initiated by President Killian, and earlier, by President Compton.

Beginning with the fall semester in 1958, tuition at M.I.T. was increased to \$1,300 for the school year. Before leaving this topic it is interesting to observe that the ratio of students to Faculty members, which stood at 12.5 for the 1948-1949 academic year, has steadily dropped to 9.9. Efforts are being made to raise Faculty salaries which, on the whole, have not kept pace with the rise in the cost of living.

### Research

Closely allied to the M.I.T. educational program, and indeed nurturing it at the advanced levels, is the Institute's intense program of research. During the French Revolution, Lavoisier paid with his life for the common man's belief that "the Republic has no need for scientists," but World War II demonstrated — if nothing else had — that in many ways science and research pay handsome dividends and may even be the means of preserving the republic.



Each year, more and more Alumni take part in the program ► of Alumni Day activities in which a major attraction is the luncheon in the Great Court, with messages from the Institute's leading administrators.

In his 1950 annual message, President Killian was able to report that, stimulated in part by the needs of World War II and the Korean War, research at the Institute was then at a new level. The Project Lincoln study had been successfully completed, and 18 major research programs were selected for mention in the President's Annual Report.

During the next two years: (1) the number and value of M.I.T.'s research contracts showed a sharp rise; (2) Project Lincoln was housed in new buildings at Lexington, Mass.; (3) the Instrumentation Laboratory on the Cambridge campus was reported actively engaged in classified research related to aeronautics; and (4) need was expressed for re-examining the method of handling the Institute's rapidly growing contracts for sponsored research.

During 1953, the Division of Defense Laboratories was set up to handle government-sponsored research more effectively. A new Combustion Laboratory was built on the third floor of the Gas Turbine Laboratory. President Killian also reported that Harvard and M.I.T. had combined their efforts and resources to design, build, and operate a six-billion electron-volt accelerator which is now under construction in Cambridge.

Since it organized and operated the Radiation Laboratory during World War II, M.I.T. has been internationally recognized for its contributions in adapting technology to national defense. In 1956 the Institute joined four other universities in establishing the Institute for Defense Analyses, the primary objective of which is to study all phases of technological national defense.

In 1956, while plans for the Karl Taylor Compton Laboratories were being prepared, enlargement of this new research building had to be provided to house a new large and flexible digital computer for an M.I.T. Computation Center. Contributed by the International Business Machines Corporation, this computer is the largest now available exclusively for educational purposes, and M.I.T. joins other colleges in New England in using the I.B.M. 704 on an unusually heavy operating schedule. The SAGE (Semi-Automatic Ground Environment) System of inter-continental defense (employing a network of radar stations interconnected to high-speed electronic digital computers) as developed by Lincoln Laboratory, was also announced in 1956.

In 1956-1957, research on the atmosphere, land, and sea took a major forward step as the Department of Meteorology and the Department of Geology and Geophysics combined their efforts with those of the Woods Hole Oceanographic Institution to organize a Laboratory of Earth Sciences. As part of the Karl Taylor Compton Laboratories in science, a \$2,400,000

Regional Conferences in cities remote from M.I.T. have ► grown in importance and popularity since they were initiated in Chicago in 1951. At the Regional Conference in Pittsburgh on December 7, 1957, J. A. Stratton, '23 (left), congratulates Irving W. Wilson, '11, who received a citation from Gilbert M. Roddy, '31 (right), President of the Alumni Association.

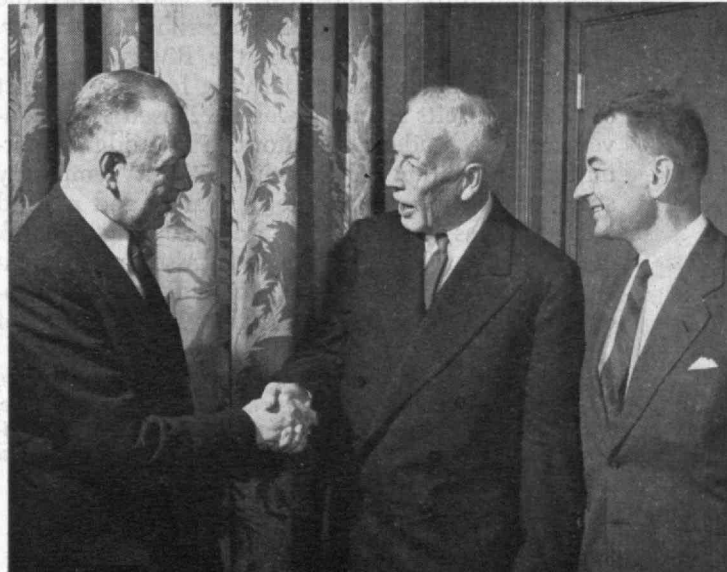


nuclear reactor was designed and projected for future operation in Cambridge. During the year, ground was also broken for the \$6,500,000 Cambridge Electron Accelerator which will be operated by Harvard and M.I.T.

In 1956 restrictions were removed on certain classified work that had been going on in the Instrumentation Laboratory under the direction of Professor Charles S. Draper, '26. Thus, two years ago, it could be revealed that tremendous progress had been made in developing inertial guidance systems which made possible automatic and controlled navigation over land and water, or in the air, by methods no longer requiring dependence on the earth's magnetic field or observations of the stars. Development of the paramagnetic microwave amplifier, depending for its performance upon solid state phenomena was also announced as having been accomplished at Lincoln Laboratory.

In the annual report, presented to the M.I.T. Corporation last October, Dr. Stratton announced that the M.I.T. Nuclear Reactor had been put into suc-

Associated Photographers





Attending commencement exercises in June, 1956, were these distinguished leaders in American education and industry—all of whom have since assumed even greater responsibilities in national or educational service. James R. Killian, Jr., '26 (left), then President of M.I.T., is now Chairman of the M.I.T. Corporation, and Special Assistant for Science and Technology to President Eisenhower. Neil H. McElroy (center), then President of Procter and Gamble Company, and 1956 commencement speaker, is now Secretary of Defense. Julius A. Stratton, '23 (right), in 1956 Chancellor at M.I.T., becomes President of M.I.T., effective January 1, 1959. Evidently, promotion to greater responsibilities would seem to follow those who play a major part in Technology's commencement program.

cessful operation in August, 1958. Research at M.I.T. continues at a rapid pace, but, warned Dr. Stratton, "it seems imperative, however, that some form of long-term funding of government sponsored research programs be adopted with ample warning of termination."

### The Little Red School House Expands

A considerable expansion in the Institute's physical plant has taken place in the past decade, as is recorded in Table III. Buildings erected since 1948 may exceed in space and value those erected at any other decade in M.I.T.'s history.

During the school year of 1948-1949, that portion of the Hayden Library devoted to the School of Humanities and Social Studies (dedicated in 1950) became occupied, and the Supersonic Wind Tunnel (on Memorial Drive near the Tech Boat House), had been completed. Construction was begun on a 12-million electron-volt electrostatic generator, and on a Hydrodynamics Laboratory and Towing Tank. A grant from Alfred P. Sloan, Jr., '95, also enabled the Institute to plan for a Metals Processing Laboratory.

During the following year, the Riverside Apartment Hotel (on Memorial Drive a few blocks west of Massachusetts Avenue) was purchased for reconversion to a student dormitory. This addition permitted demolition of Building 22, a temporary structure erected during World War II and pressed into service as a barracks for students during the peak of postwar enrollment of veterans. Also in 1950 construction was started on the Metals Processing Laboratory. Plans for the Dorrance Laboratories of

Cambridge's loss is Washington's gain. In his M.I.T. office, James R. Killian, Jr., '26, confers with members of the press, following the announcement on November 7, 1957, by President Eisenhower, that Dr. Killian had been named Special Assistant for Science and Technology.

TABLE III

ADDITIONS TO PHYSICAL PLANT — 1949 TO 1958

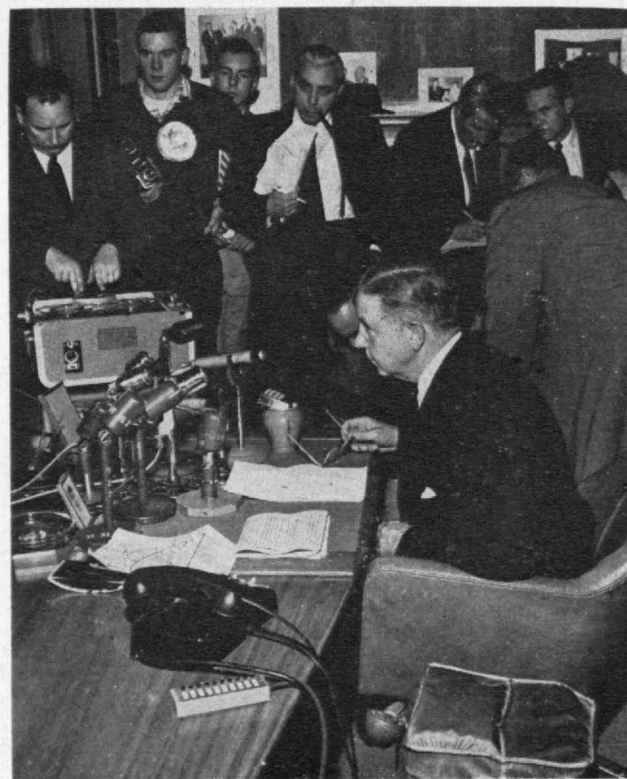
Year	Property	Area (sq. ft.)	Value	Use
1949	Baker House	135,650	\$2,576,186	B
	Briggs Field House (and Track)	6,500	121,198	C
1950	12 MEV Electrostatic Generator	9,452	278,255	A
	Hydrodynamics Laboratory and Towing Tank	25,775	618,041	A
	Hayden Library	148,773	3,880,441	A
	Burton House, Acquired	145,800	2,028,065	B
1951	Sloan Building, Acquired	126,157	2,852,051	A
	Dean's House, Acquired	12,023	75,000	B
1952	Metals Processing Laboratory	67,507	1,194,576	A
	Dorrance Laboratories	108,835	3,222,304	A
1955	Kresge Auditorium	43,900	2,614,352	C
	M.I.T. Chapel	4,160		C
	Endicott House	25,800	275,000	D
1957	Compton Laboratories (and I.B.M. Computer)	134,400	3,707,483	A
	National Guard Armory	63,995	375,000	C
	Religious Counselors' House, Acquired	3,785	30,406	C
1958	Nuclear Reactor	11,773	2,468,457	A

A-Academic; B-Living Groups; C-Medical, Athletic, Recreational; D-Special and Misc.

Biology and Food Technology were also formulated, as a substantial grant from the Campbell Soup Company made this much-needed facility possible. The Hydrodynamics Laboratory and Towing Tank was put into use, and Hayden Library was dedicated in May, 1950. A conference room for use by students of the Department of Electrical Engineering and named in honor of Dugald C. Jackson, Head of the Department of Electrical Engineering from 1907-1935, was dedicated on Alumni Day, 1950.

(Continued on page 158)

Louis R. Nelson, '59



# Science, Engineering and the Humanities

How can our educational process be evolved to form a consistent whole, with the educated person separated from the technician by understanding what he knows?

by ROBERT S. WOODBURY

THE training of our scientists and engineers has been a matter of public concern in recent months, but the discussion has focused primarily on technical training in science and engineering. Our leaders have warned us of the inadequate numbers of scientists and engineers we are producing, not only for our military purposes but for peaceful needs. Although it seems quite probable that we do need more scientists and engineers, one may suspect that mere numerical comparison with the Soviets is hardly a sound basis on which to rush into a "crash" program aimed only at turning out large numbers of people with these highly important skills. Of late there has been more talk of quality of training; a few have suggested that we have an adequate supply of men trained for our ordinary scientific and engineering requirements, that what we need is more of the top-flight talent — the really creative scientists and engineers, the men who will make the great fundamental advances.

Until the recent satellite successes, the free world felt rather satisfied that we had deservedly more than our share of the best scientific and engineering minds. There have also been some serious programs to improve the methods of teaching our future scientists, both at the preparatory and at the college levels. A word or two has even been whispered that the methods of graduate training could be substantially improved. This is all encouraging and important, but is it enough? Are technical knowledge, skill, and creativity — no matter how efficiently imparted or developed, on how high a level, or how widespread — are these enough if science and technology are to play the part they must in a world at once somewhat afraid of them and at the same time hopeful that they will give us the answers to the great problems of these troubled times?

Something more is required. It is required in our scientists and engineers not only that they may more deeply serve society as a whole but also that this "something more" be included as a necessary part of their special work as scientists and engineers. Since the first military atomic bomb exploded over Hiroshima, not a few of our most distinguished physicists have rediscovered the world of values, especially the conscience; they feel that they have sinned. But some of their pronouncements on the moral implications of "this monster that we have created" are hardly worthy of a term paper in a first college course in philosophy, much less do they show a broad perspective and a deep understanding of the meaning of

scientific and technical advance for the future. What then is required?

Too little has been said about the *education* of our scientists and engineers. May it not be that our present doubts of their capabilities and wisdom stem from the fact that all too frequently they are not educated men? But shall we call a doctor of philosophy an uneducated man? Or can we perhaps say that Ph.D.'s in physics, chemistry, biology, or mathematics are not educated; but Ph.D.'s in history, government, economics, philosophy, or fine arts are? Such a neat classification is surely unsound. Does education inhere in certain subject matter and not in others? It clearly does not. Education derives only from a certain attitude toward knowledge — the attitude of the educated man.

We have too often assumed that the technician is to be found only among the scientists and engineers. But the technician exists in all fields of knowledge, and he is nowhere more to be deplored than in the humanities, where his thinking can be far more rigid and restricted, his research and teaching quite as lacking in meaning and perspective as those of the technician in science or engineering. Yet we must also recognize that those educated principally in the humanities seldom know of the sense of discovery in experimental science, the aesthetic experience possible in higher mathematics, or the intellectual achievement of a sound engineering design.

What then is an educated man? The universities and engineering schools are agog with this question of a proper education for scientists and engineers, but much noise arises from a lack of any clear philosophy of this sort of education. The problem has usually been simply avoided by introducing "cultural courses," with varying degrees of organization and effectiveness within themselves, in the rather desperate hope that exposure to a few subjects assumed to be cultural will somehow produce educated men. Unfortunately, both faculty and students have an uneasy sense that such programs have resulted only in a thin veneer of "culture" over the solid core of science and engineering.

Our basic need is a philosophy of education which will integrate the entire training of our scientists and engineers — to produce the educated scientist or engineer.

What then is an educated scientist or engineer? Does he differ fundamentally from any other educated man? In so far as he is a scientist or an engi-

neer, one may say that he has obvious differences. In so far as he is an educated man, the differences are of little importance. We may make a distinction fundamental to our problem. The distinction is that between the technician and the educated man, between one who knows and one who understands what he knows.

This distinction is not always kept clearly in mind. It does not at all turn on the subject matter of a man's education. There are technicians in English literature, in history, even, I am sorry to say, in the history of science. There are educated physicists, chemists, biologists, and engineers. The technician then is the man who has amassed a large body of knowledge, or who has acquired a highly developed special skill, but who does not see beyond it. He has no conception of what it all means, and worse, he often does not care whether it means anything. He does not know what relation his studies bear to other fields of thought, nor is he interested in the place of his own work in man's knowledge as a whole. He may be seen at his best in Robert Browning's poem *A Grammarian's Funeral*, and at his worst in monographs in which at least three-quarters of each page is taken up with footnotes. I have purposely pictured him in the so-called "cultural studies," for he is not there so well recognized. We tend to assume that *literae humaniores* are actually humane. Among scientists and engineers the technician is more frequently found. Two of many typical expressions which the scientific technician uses to indicate the

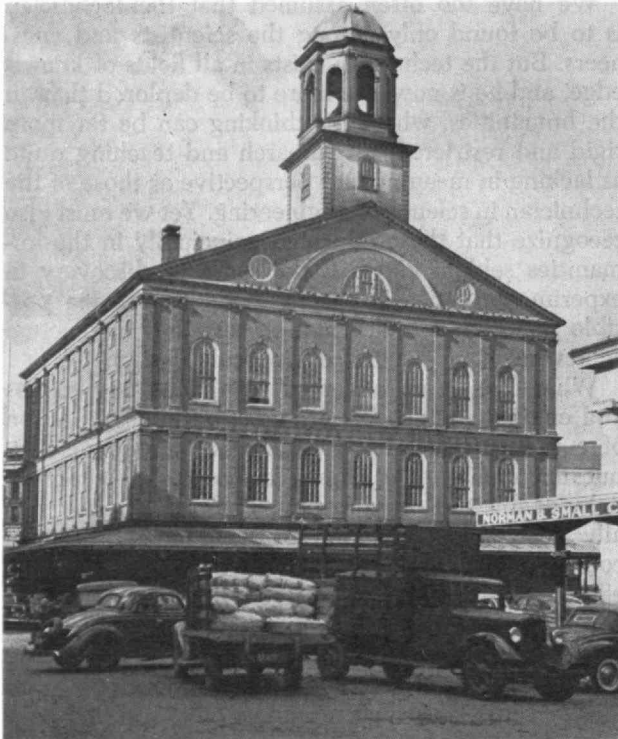
results of his education are: "Oh, poetry and all that are well enough, but . . ."; or "Pure metaphysical speculation."

During the 1870's and 1880's Sir Michael Foster, Thomas Henry Huxley, and John Tyndall fought to establish science in the English system of education as being "an intellectual training fitted for all sorts and conditions of men." That battle was fought and won. Science took its place alongside the "cultural studies" as an integral part of the curriculum. It has sometimes, however, come to take too large a place, and the day is not far off when it will become necessary for *literae humaniores* to fight for their academic lives. This situation is especially bad in engineering and scientific schools, some of the largest of which make no effort whatever to acquaint their students with anything other than pure and applied science. But, as pointed out above, the problem is not primarily one of subject matter; rather it is one of attitude — the attitude of the educated man.

The educated man is possessed of a certain body of knowledge — in Matthew Arnold's phrase, he knows "the best that is known and thought in the world." He knows what it means, he recognizes the interrelations of its parts and its relation to the whole body of man's knowledge. Arnold set too high an ideal for our knowledge; there is too much good thinking in the world for us to know it all. But it is possible to attain this ideal in one field of thought at least. For the engineer or scientist it is possible to have an exact and full knowledge of his subject, to have some notion of its meaning, and to realize its place in the whole of knowledge and life. It is not only possible, it is necessary. In the announcement of Ostwald's *Klassiker der Exakten Wissenschaften* is the following significant statement: "While, by the present methods of teaching, a knowledge of science in its present state of advancement is imparted very successfully, eminent and farsighted men have repeatedly been obliged to point out a defect which too often attaches to the present scientific education of our youth. It is the absence of the historical sense and the want of knowledge of the great researches upon which the edifice of science rests."

It has recently been pointed out that within the sphere of their particular work our physicists have become so specialized — so unacquainted even with classical physics — that their scientific research is found wanting. Have they not also thus neglected the educational opportunities inherent in their own field of knowledge? It seems to me to be the function of an engineering or scientific school to produce educated scientists and educated engineers free of these faults. Its graduates should have a good training in the fundamentals of science or engineering, a knowledge of the history of their subject and something of its philosophy, and also a fairly clear idea of its present and its historical relations with the rest of society and of man's thought. The history of science and the history of engineering offer a way to attain this very end.

The history of science can have two functions in an education: it may give background and depth to the student, and it may serve as a bridge to other cultural subjects. Through a study of the history of



Raymond E. Hanson, '03

The mark of an educated scientist or engineer would appear to be a good training in the fundamentals of science or engineering, a knowledge of the history of their specialty together with something about its philosophy, and a fairly clear idea of its historical relation with the rest of society and of man's thought. What better symbolism of this thought than this view of Boston's historic Faneuil Hall, whose present market operations are simultaneously facilitated and obstructed by transportation methods due to technology?



J. R. Jackman

*The educated man understands what his knowledge means and recognizes the interrelation of its parts. Clearly, education derives from an attitude toward learning rather than from the particular subject matter studied. True education can be developed through science, engineering, and architecture as readily as through the liberal arts.*

science the student attains a new understanding of scientific advance. He discovers that science was not handed down like the Ten Commandments, but is rather the result of long and patient work by hundreds of men slowly advancing. He learns from the lives of the great scientists that science was created by men and not by gods. The subject matter then becomes to him merely one stage in a tremendous sweep of unfolding knowledge of nature and man.

Co-ordinated with some small research of his own, the history of science will give the student a far deeper conception of what science really is than will any textbook or the routine laboratory work common in most elementary courses. His understanding of science is also deepened by the discovery that some of the greatest figures in science were wrong. A study of the phlogiston theory cannot but make him skeptical of the results of modern science. If men such as Priestley and Cavendish could believe in phlogiston, when today it seems almost ridiculous, may not our own knowledge some day appear equally foolish? In accepting this precept, the student has then taken the first step that leads to fundamental research — he has begun to doubt. This is of the very essence of scientific progress. If he reads also of Black's subsequent acceptance of Lavoisier's demolition of the phlogiston theory, he has also learned something of the true nature of science. This aspect of the teaching of the history of science meets the demand that the educated scientist or engineer should have some understanding of the meaning of his subject. Its

history brings out the real meaning of scientific advance. What about its philosophy?

If the history of science is only to record each advance or retrogression as it is made, and how it came to be made, the history of science becomes not history, but merely a chronicle. The very essence of the history of science is the development of scientific method and the scientific vocabulary. Given the whole of modern scientific methods for the study of nature and none of the facts, we could probably recover the whole body of science in a generation. Witness the 30 years after Galileo and Descartes. The body of knowledge is important, but the way of thinking is more so. Lavoisier's great discoveries were of far less importance than the methods which he used to find them. His revision of chemical nomenclature might be said to be more important still. The long story from the Ionian "water," "nous," or "apeiron" to the exact language of modern physics and chemistry cannot fail to bring to the student's mind the great significance of exactness of expression in science. In brief, the history of science can do something to the student's mind more than merely pour information into it. The study of the history of engineering can have a similar educating effect on the minds of our young engineers.

The other characteristic of the educated scientist or engineer — his recognition of the relations of his world with other worlds of ideas and with the world of man himself — can also be found in the history of

*(Continued on page 154)*

# Fort Washington

Adjacent to M.I.T. property, historic fort erected during the American Revolution attracts little attention from Bostonians

by CHARLES W. SHERMAN

**T**HE sole survivor of the forts, lines, and batteries, constructed by either American or British forces during the Siege of Boston in 1775-1776, or previously existing and used by the British, is the little "half-moon battery" in Cambridgeport, now known as Fort Washington. It is, therefore, a monument of real significance to persons interested in the events of the first year of the American Revolution. Yet few people of Greater Boston, or even of Cambridge, know of its existence, and the number who have seen it is small.

Whoever has visited the North End of Boston must have been impressed by the intimate knowledge which children of that section have about the Old North Church, the Paul Revere House, and Copp's Hill. By contrast, the lack of knowledge of Cambridge's historic relic by Cambridge people, and especially by the school children who live in the vicinity, and who, at least to some extent, see it almost daily, is difficult to understand.

The name, Fort Washington, was given to the little earthwork in 1858, shortly after the land upon which it stands was donated to the city of Cambridge. It was then enclosed by an elaborate iron fence, of which only a part remains undamaged, and three 18-pounder cannon were obtained from the old Fort Warren in Boston Harbor (which was being dismantled by the Army and replaced by the new Fort Warren on

George's Island), and were placed in the embrasures or openings in the embankment, to give it the appearance of a real fort.

Fort Washington is located on Waverly Street, at the foot of Allston Street; its location, with respect to M.I.T. property for athletic and recreational use, is shown in Fig. 1. It borders on the tracks of the Boston and Albany Railroad, and is near the large sign of Cain's mayonnaise, which fronts on Vassar Street and is easily seen from Memorial Drive. A "Plan of Washington Square," prepared by the City Engineer, and furnished by City Manager John B. Atkinson, is the basis for the sketch shown in Fig. 3, and a photograph of the works, from within the embankment, is shown in Fig. 2.

In his report to the Continental Congress dated November 28, 1775, General Washington wrote:

"I have caused two half-moon batteries to be thrown up, for occasional use, between Lechmere's Point and the mouth of Cambridge River, and another work at the Causey (causeway) going to Lechmere's Point, to command that pass, and rake the little rivulet that runs by it to Patterson's Fort. Besides these, I have . . . marked out three places between Sewall's Point and our lines on Roxbury Neck, for works to be thrown up, and occasionally manned, in case of a sortie when the bay gets froze."

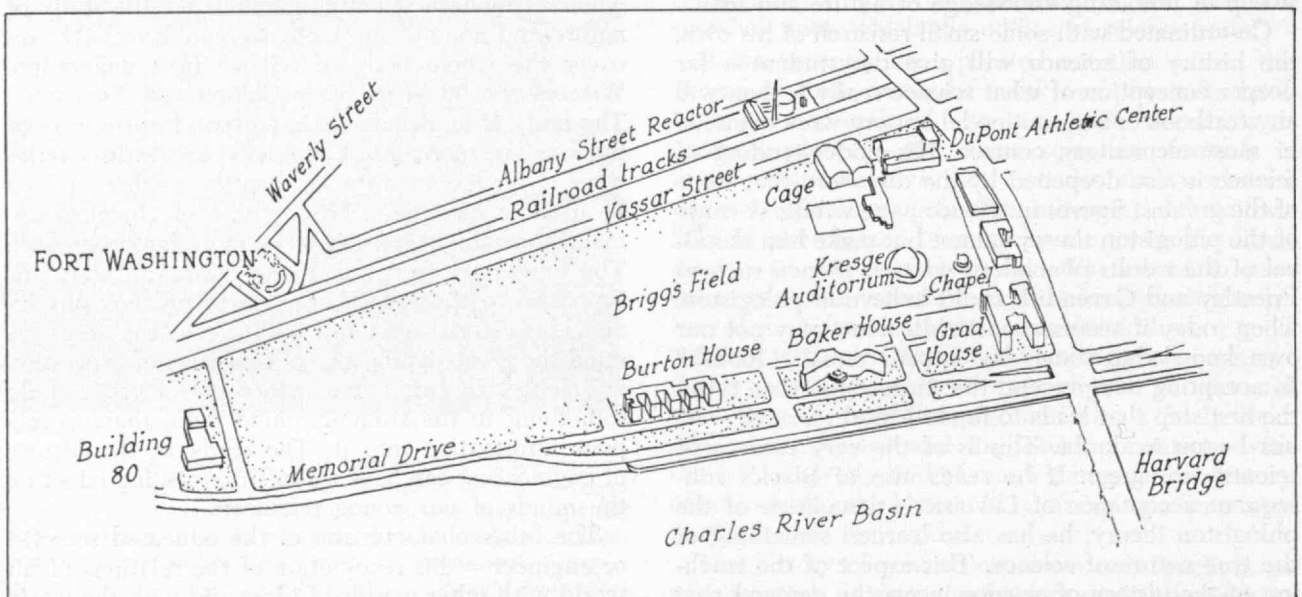


Fig. 1. Map of the Institute's recreational and living area west of Massachusetts Avenue, showing location of Fort Washington on Waverly Street in Cambridge.



Raymond E. Hanson, '03

Fig. 2. (Above) Fort Washington, from behind embrasures, as it appears today.

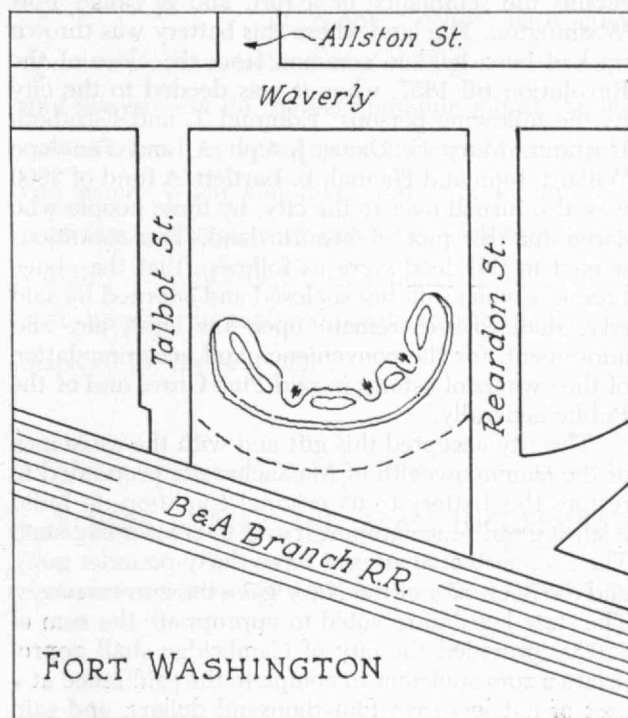
All of these works were, as Washington wrote, primarily for occupancy as defensive points in case of an assault by the British; but as, at that time, he was planning the immediate construction of a much more considerable fortification at Lechmere's Point (which soon became the most important offensive post in the American lines) and as he certainly must have had in mind the fortifications on Dorchester Heights, which were thrown up in March, 1776, it seems altogether probable that the major reason for building these minor works was to accustom the troops to throwing up earthworks, and to cultivate a feeling that such works were of real importance.

As shown in Fig. 3, the earthwork is nearly equivalent to half of a circle, having a diameter of about 120 feet, the length of the embankment being about 200 feet. It is likely that it was intended to be occupied by one company of troops, or some 50 or 60 men.

The three openings were doubtless intended for use by field pieces, three or four pounders, which would probably have been drawn by hand from the camp across the marsh. The embankment is only about three and a half feet high at one end, and five feet at the other; but these little "half-moon batteries" and other minor works are shown on the excellent map of Henry Pelham, made for the British in 1775 and 1776, and may well have been assumed by them as of much greater importance than was actually the case.

At the time these little fortifications were constructed, Knox was on his way to Ticonderoga, to get the best of the cannon which were there and at Crown Point, and it was essential that the troops be trained

Fig. 3. (Below) Diagram showing plans of Fort Washington. Earthwork is about equivalent to half a circle, with a diameter of around 120 feet; length of embankment about 200 feet.





Raymond E. Hanson, '03

Fig. 4. Close-up of one of the three cannons showing details of cast-iron gun carriage. Toward rear is iron fence with simulated cannon as posts.

in constructing works in which the guns could be mounted promptly when they were received.

The best statement about the transfer to the city of the Fort Washington property seems to be that contained in the *Historic Guide to Cambridge*, compiled by members of Hannah Winthrop Chapter, Daughters of the American Revolution, in 1907, on page 179. It is as follows:

"The three gun battery at the foot of Allston Street retains the semblance of a fort, and is called Fort Washington. The land where this battery was thrown up had been held in common from the close of the Revolution till 1857, when it was deeded to the city by the following persons: Edmund T. and Elizabeth Hastings, Mary E. Dana, Joseph A. and Penelope Willard, John and Hannah B. Bartlett. A fund of \$800 was also turned over to the city, by these people who cared for this plot of historic land. The conditions named in the deed were as follows: 'that the above premises when suitably enclosed and adorned by said city, shall forever remain open for light, air, and adornment, for the convenience and accommodation of the owners of estates in said Pine Grove and of the Public generally.'

"The city accepted this gift and with the assistance of the commonwealth of Massachusetts proceeded to restore this battery to its original condition, to build a substantial fence around it and to erect a flag-staff. The Secretary of War gave three thirty-pounder guns, and the Secretary of the Navy gave the gun carriages. The state legislature voted to appropriate the sum of \$2000, 'provided the city of Cambridge shall appropriate a sum sufficient to complete the said fence at a cost of not less than four-thousand dollars, and said

Fort Washington shall always be accessible to the public, and that said city of Cambridge shall always keep the fence proposed to be built, in good repair.'

The guns standing in the embrasures are actually 18-pounders. They were among those over-age cannon which were removed from the original Fort Warren, on Governor's Island, when a new Fort Warren was built on George's Island. Marcus Morton, of Cambridge, learned by correspondence with the Historical Section of the Chief of Ordnance in Washington, in 1942, that the guns were cast by the West Point Foundry, on Hudson River; and he discovered in the city records that it cost the city the sum of \$13.50 to bring these guns from Governor's Island to Cambridge!

Of course guns of this size would never have been placed by Washington at this insignificant earthwork, even if the Americans had had enough large cannon. These particular guns are, therefore, out of place in any such work as this little "half-moon battery"; but as they have now been there for about 100 years, and as they were presumably given to the city with the understanding that they were to be kept there, it would be inappropriate to remove them. Besides, smaller pieces would probably have been "borrowed" from such an open space long before this time.

These cannon are identical, except for the numbers and weights marked upon them. They are numbered 45, 36, and 40; and their weights are shown as 30-0-13, 30-0-17, and 30-0-16, respectively (in hundredweight, quadrants, and pounds). These figures correspond to 3,373, 3,377, and 3,376 pounds. The bore is approximately 5½ inches; the diameter of an 18-pound sphere of cast iron is 5.1 inches; the excess diameter of the bore (called windage) was usually about ¼ inch, or a little more, to allow for irregularities in the bore of the guns and the casting of the balls. The next larger standard size for cannon of that period was 24 pounds, which would require a bore of at least 5.9 inches.

The photograph in Fig. 4 also shows the cast iron carriage of one of these guns in considerable detail.

The fence surrounding Fort Washington Park is somewhat elaborate, evidently with the object of giving a monumental appearance to the earthwork which it enclosed. The gateposts are of granite, with cannon in bas-relief on the outer faces, and each bears beneath the cap a bronze plate. The inscriptions on these plates are as follows:

On the left-hand post —

This fort was used during the  
Siege of Boston  
and helped force its  
Evacuation by the British

On the right-hand post —

FORT WASHINGTON  
constructed November 1775  
by the  
Continental Army under  
General George Washington

The fence is of iron, with simulated cannon as posts, and alternate spears and halberds as pickets. A considerable part of it has been damaged, perhaps maliciously, as there seems to be no other explanation for the many broken parts.

# BUSINESS IN MOTION

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At the new \$7,000,000.00 Love Field air terminal, Dallas, Texas, travelers are transported to and from the terminal building to the loading fingers via the world's longest passenger conveyor system. In fact this "moving sidewalk" is the first installed at an airport anywhere in the world. In operation since last January, it has already met with a high degree of public acceptance.

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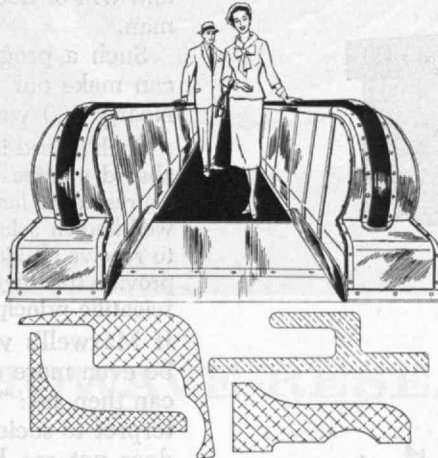
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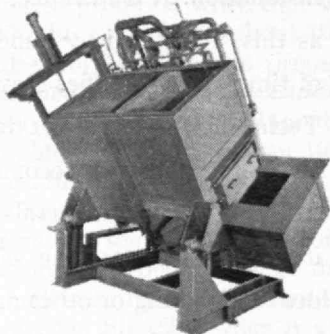
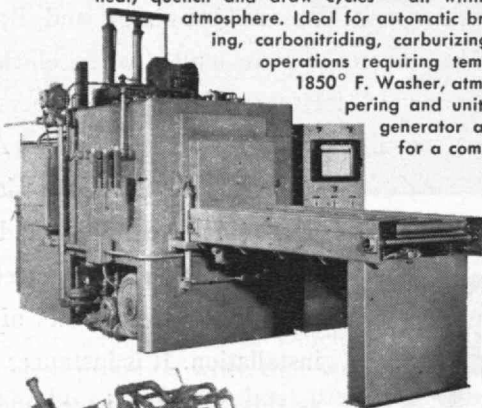
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## SCIENCE, ENGINEERING, AND THE HUMANITIES

(Continued from page 149)

science and in the history of engineering. Most engineering and scientific students have built up in preparatory school a considerable resistance to history, literature, or any of the so-called cultural subjects. They do, however, have a very keen interest in science, mathematics, or engineering.

Through the study of the history of science, this interest can be led into an interest in philosophy, especially logic and scientific method; into intellectual history, of which the history of science is a most important part; and so into general history. Courses in the history of engineering cannot omit questions of economic history, economics itself, labor problems, and general social questions. Briefly, both these subjects inevitably open out into so many others that the student's original interest in science leads him to new interests, or at least to a recognition that science and engineering are but part of a whole. He sees his own knowledge in relation to other studies and to that whole. The study of the history of pure and applied science can, then, help in making the scientist or engineer something more than a technician, and will of necessity aid in making him an educated man.

Such a program of studies can do even more; it can make our student a better scientist or engineer. Nearly 100 years ago James Clerk Maxwell wrote:

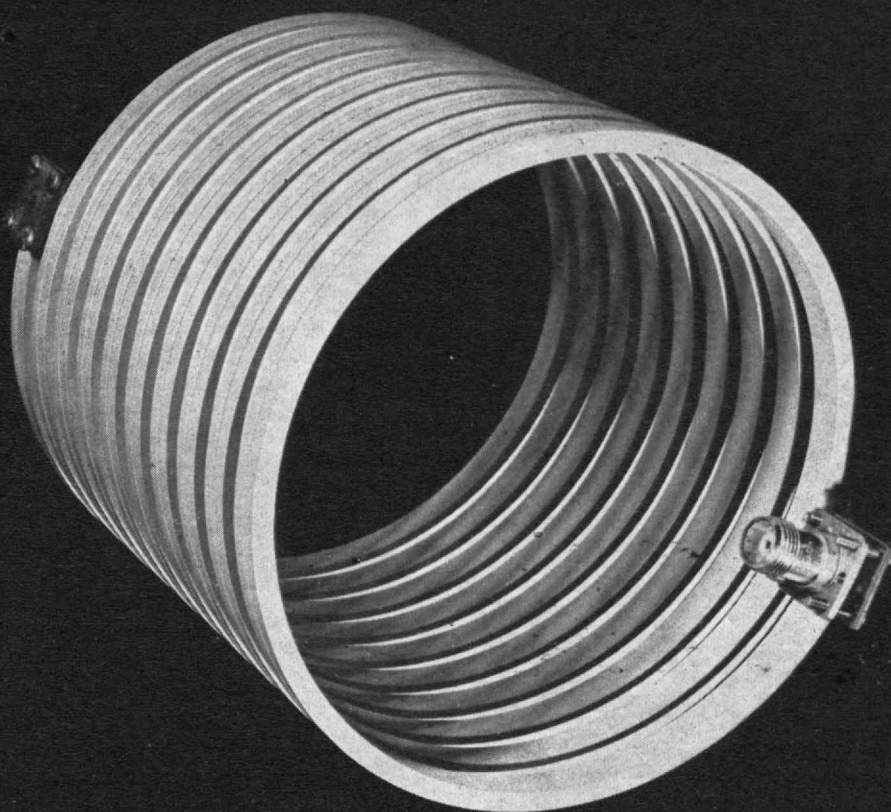
Such indeed is the respect paid to science that the most absurd opinions may become current provided they are expressed in language the sound of which recalls some well-known scientific phrase. If society is thus prepared to receive all kinds of scientific doctrines it is our part to provide for the diffusion and cultivation not only of true scientific principles but of a spirit of sound criticism.

If Maxwell's view still be true, and I believe it to be even more cogent today than when he wrote, we can then ask: "How is the scientist or engineer to interpret to society as a whole what he is doing, if he does not see his work in historical perspective, as part of a whole — a unity which is our heritage?"

But how, as a practical matter, is all this to be brought about? There are numerous courses in the history of science, and a few in the history of engineering, in the colleges of the United States; and they are, with very few exceptions, all equally bad, principally because they nearly all are taught by men who are not themselves educated in the sense indicated above. This situation arises from the common fallacy that a good scientist is necessarily a good historian of science. These courses may appear almost anywhere — in departments of history, science, engineering, economics, or philosophy. One thing they have in common — the men teaching them are seldom really qualified to do so.\* A number of these men are fitted to teach the history of a particular science, but no one seems to have recognized that the introductory or survey course demands a far deeper and broader training than almost any other course in the university. Such a teacher should have a sound knowledge of astronomy, physics, chemistry,

(Concluded on page 156)

\* The author has taught both subjects and includes himself!



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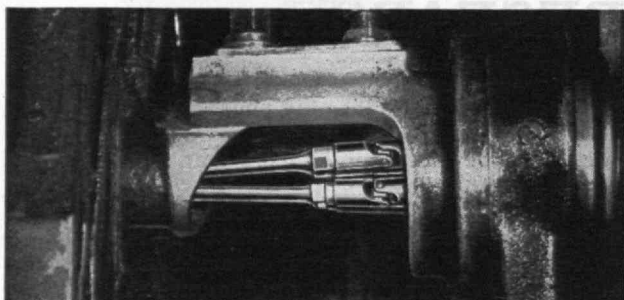
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## SCIENCE, ENGINEERING, AND THE HUMANITIES

(Concluded from page 154)

and mathematics; some knowledge of biology, medicine, and engineering; a good foundation in philosophy, especially in logic and scientific method; a thorough knowledge of world history, especially intellectual history and the history of religion; and this is only background. All this seems impossible, yet must be striven for.

Merely introducing courses in the history of science and engineering is not enough. These are fairly common, and do not achieve the aims suggested above. Courses in history, in philosophy, or in literature are fairly frequent in most engineering and scientific schools, but it is amazing to see how well the student can do in them and manage to keep them in watertight compartments completely separated from the rest of his studies. It is definitely a mistake to assume that, because a man has been exposed to economics, to history, to literature, to philosophy, or to the fine arts, he is therefore an educated man. The courses which are aimed at educating the student must be closely co-ordinated with those which train him technically. It is not sufficient that his cultural courses form a coherent whole in themselves. It is necessary that his entire training form a consistent whole aimed at producing the educated scientist or engineer. There is no field of study which is as convenient as is the history of pure and applied science for effecting this unification.

At M.I.T. we have taken some of the first steps towards achieving this goal, but the work is by no means complete and its results are very difficult to evaluate. These courses are almost entirely elective; a student may choose a series of such integrated courses but is not required to follow any such unified program unless he so desires.†

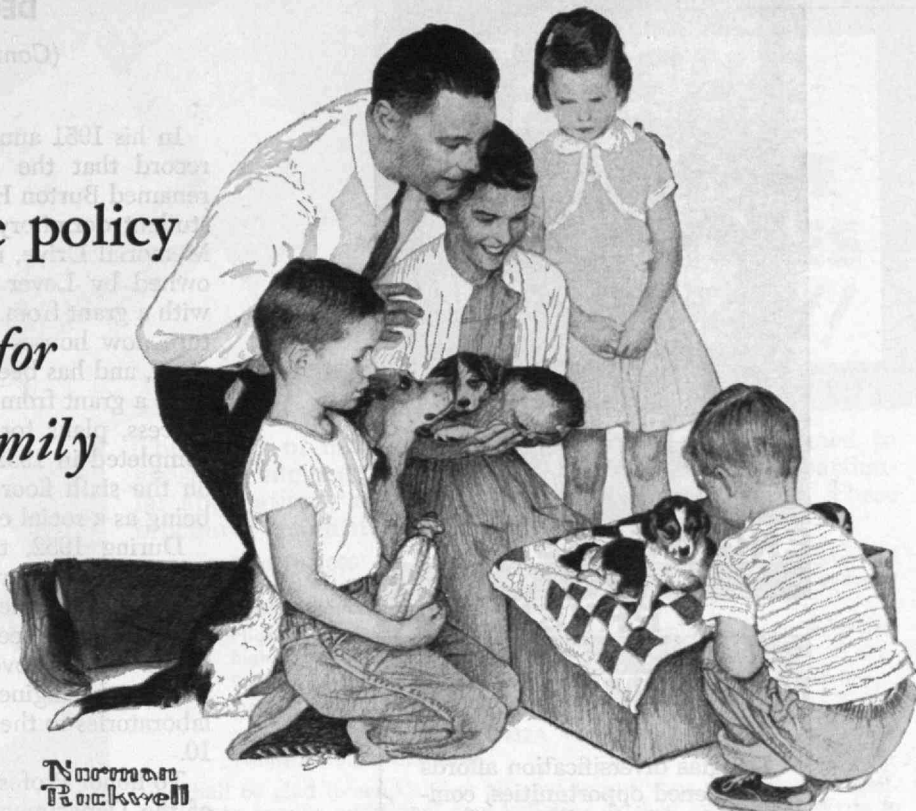
The aim of all these courses must not be the minutiae of the history of the subject, nor a catalogue of discoveries, but rather to give the student something of the history of his subject, perspective on modern science, a deeper realization of the debt which he owes to the pioneers, and some understanding of the great movements in the development of science — in short, to educate him within the framework of his principal studies.

The study of the M.I.T. courses in History and Philosophy of Science, or of the History of Engineering and Economic History, will not alone make our students educated scientists and engineers. They need also to be offered literature, music, fine arts, political and social history, ethics, even metaphysics! But the history and philosophy of their own special interests do form the most convenient and logical bridge to an integrated education. Their study, however, must not become merely scholarly pursuits for a devoted few; they must perform an equally important function as a vital and unifying force in the education, not only of the scientist and engineer, but of every educated man. To do otherwise is to court the disaster that is inevitable if the study of Nature is cut off from the study of Man.

† The scientific and engineering training is of course within itself very carefully and closely integrated.

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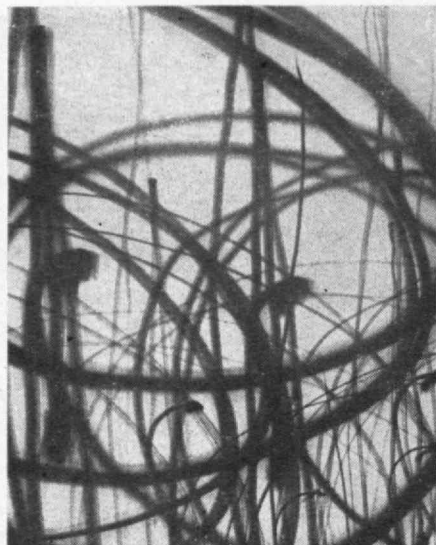
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In his 1951 annual report, President Killian could record that the Riverside Apartment Hotel (now renamed Burton House) had been reconverted into a student dormitory. A substantial office building on Memorial Drive, near Kendall Square, and formerly owned by Lever Brothers, was purchased in 1951 with a grant from Alfred P. Sloan, Jr., '95. This structure now houses the School of Industrial Management, and has been renamed the Sloan Building.

As a grant from the Kresge Foundation assured its success, plans for a much-needed auditorium were completed in 1952. In May, 1952, the Faculty Club on the sixth floor of the Sloan Building came into being as a social center for the Institute's family.

During 1952, the Metals Processing Laboratory was put into operation. The Department of Biology and the Department of Food Technology were transferred to the recently completed Dorrance Laboratories. This move permitted the Department of Electrical Engineering to expand its offices and laboratories to the third and fourth floors of Building 10.

To honor Professor Charles M. Spofford, '93, Head of the Department of Civil Engineering from 1911-1933, the Charles M. Spofford Room was dedicated on December 7, 1953. The room serves students as a modern and well-appointed meeting place for social and educational gatherings.

A year later, a seminar and social room for student activities in the Department of Mechanical Engineering was dedicated on December 18, 1954. The room is known as the Edward F. Miller Room, in honor of Professor Miller, '86, who was head of the Department of Mechanical Engineering from 1912-1933.

The Kresge Auditorium and the M.I.T. Chapel were dedicated on May 8, 1955, in impressive ceremonies. Both buildings are of unusual design and still cause comment from those who see them for the first time. A magnificent private mansion in Dedham, known as Endicott House, was presented to the Institute in 1955 and has since been used for conferences, symposia, and study projects requiring an invigorating and secluded environment.

As recorded in the July, 1957, issue of *The Review*, the Karl Taylor Compton Laboratories were dedicated on Alumni Day, 1957, at which time construction of the nuclear reactor was reported to be well along. During 1957, the Institute purchased the National Guard Armory on Massachusetts Avenue opposite its main educational structures. The will of David F. du Pont, '56 (whose untimely death occurred in September, 1955), made it possible for the first time for the Institute to plan an adequate athletic center which is currently being erected, adjoining the National Guard Armory. Long overdue, gradual demolition of Westgate — a temporary housing project for married students erected shortly after the end of World War II — was begun in the fall of 1957. The most recent building to be added to the Institute's property is a four-story residence building

(Continued on page 160)



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(Continued from page 158)

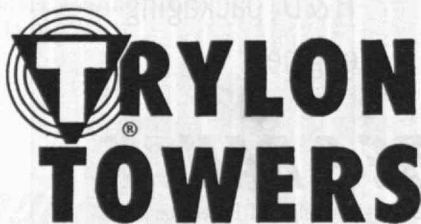
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### Housing

As the Institute grew, its student body found increasing difficulty in locating suitable living quarters on or near the campus, and its Faculty and staff tended to move to areas remote from the Great Court. Furthermore, the composition of the student body was changing. In recent years something like 10 per cent of the student body has come from foreign countries (9.6 per cent in 1953 and 11.9 per cent in 1957). Since the end of World War II, married students have constituted a goodly percentage of the total student body. At the beginning of the current (1958-1959) school year, 190 of the 3,587 undergraduates, or 5.3 per cent, were married students. Of the 2,672 graduate students, 1,186, or 44.5 per cent, were married. For the total student body of 6,259 students, 1,376 or 22 per cent were married. For quite a few years, the number of women students has exceeded 100, most of whom are enrolled in the Graduate School. As efforts were made to transform M.I.T. into a residential college, it became clear that housing had become a major problem — as automobile parking still is.

In the field of housing, in 1948-1949 construction was begun on the Eastgate Apartment. A score or more of members of the Faculty and Administration live in this building on Memorial Drive, just east of, and adjacent to, the President's House. The serpentine Baker House — a dormitory for approximately 350 students — was dedicated on June 11, 1949. Construction of this building was aided by a gift of \$500,000 from the Alumni Association. The Faculty residence plan, in which a member of the Faculty took up residence among students in one of the dormitories, was initiated in 1950 in Baker House but was soon extended to Burton House and the East Campus.

Beginning in September, 1952, freshmen were required to live in M.I.T. dormitories, if they did not reside at home or in fraternity houses.

By 1955, it was evident that M.I.T. dormitories would again soon be inadequate for student needs.

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Accordingly, a comprehensive study of student housing was made under the chairmanship of Edwin D. Ryer, '20. This study resulted in improvements and modifications in existing dormitory buildings. More important, however, the study established a plan for future long-range housing at M.I.T.

In 1956-1957, as the distaff student body continued to grow, a portion of Bexley Hall was renovated and set aside for women students, not all of whom could be accommodated in the Residence for Women on Bay State Road in Boston. Also, in 1957, Frederick G. Fassett, Jr., was made Dean of Residence and moved into a splendid mansion on Memorial Drive where he and Mrs. Fassett are able to enhance a homelike environment for students in a metropolitan university. This fine residence first became available to M.I.T. in 1951 through a grant of the Moore estate.

#### Public Relations and Regional Conferences

As M.I.T. activities have spread into many areas not formerly regarded as part of the program of an academic institution, the Administration has found it desirable to expand and enhance its relations with the public, as well as with its loyal and rapidly growing alumni body.

In 1945 the News Service employed one man and one girl. It was then primarily engaged in serving as liaison between the Institute and the daily press, and in interpreting newsworthy topics on science and engineering. Today, its successor, the Public Relations Office has a total staff of something like five men and nine girls. In addition to the usual news releases which it handles for the press, this office is responsible for M.I.T. participation in television and radio programs, and produces two periodical bulletins—one for M.I.T. personnel and the other for parents of M.I.T. students. In addition, it operates a Publications Office whose responsibility is to plan, design, and produce catalogues, reports, and other (non-Alumni) publications for the Institute.

An important public relations activity which has received the enthusiastic support of Alumni in various parts of the United States was inaugurated at Chicago in January, 1951, when the Institute staged its first Regional Conference. With the help of M.I.T. clubs, who assume responsibility for local arrangements, members of the Institute's Faculty and administrative staff meet with Technology Alumni  
(Continued on page 162)



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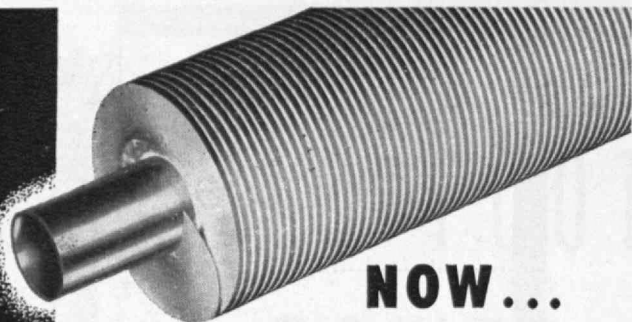
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**DECADE IN REVIEW**

(Continued from page 161)

and other leaders of industry and education for a full-day conference in a selected city. The theme of the program in the various cities varies, depending upon local industries and interests, but every effort is made to make the conferences educational, forward-looking, and sociable. As seen from the Cambridge point of view, new trends in education, research, technology, and related topics are major topics of these conference programs. Thus far, 13 Regional Conferences have been held; in order of their occurrence, in Chicago, Los Angeles, New York, Detroit, Dallas, Cleveland, St. Louis, Los Angeles, Tulsa, Chicago, Pittsburgh, Washington, D.C., and Albuquerque, and the 14th Conference is scheduled to be held in Detroit on January 31, 1959.

**Alumni Activities**

Between 1930 and 1947, the affairs of the Alumni Association were efficiently managed by an Alumni Secretary (who devoted part time to Association matters), a part-time Treasurer, and secretarial assistant. As the number and extent of alumni activities increased, full-time employees were required. Today, an Executive Vice-president (taking office January 1, 1947), a Secretary-Treasurer (appointed in 1948), and two secretaries are employed to administer the affairs of the Alumni Association.

The number of M.I.T. clubs has increased from 77 in 1948 to 94 today. Of the 17 clubs established in the last decade, an even dozen have been organized in foreign countries. A substantial number—more than half—of the M.I.T. clubs all over the world are visited each year by officers of the Alumni Association or by members of the Institute's Faculty or administrative staff. The number of living Alumni has grown too, from 41,438 in 1948 to 47,210 in 1955 when the last *M.I.T. Alumni Register* was published. On March 31, 1958, this figure stood at 48,949. To keep track of the Institute's large—and constantly moving—alumni body, the personnel in the Alumni Association Office has increased during the past decade, possibly as much as 50 per cent.

Alumni Fund activities, likewise, have increased. In marking the 10th anniversary of this Fund in 1951, the Association could be proud that 10,631 Alumni had contributed \$166,280 to this Fund. For the fiscal year ending June 30, 1958, there were 13,331 Alumni who had contributed a total of \$445,194 to this

(Continued on page 164)



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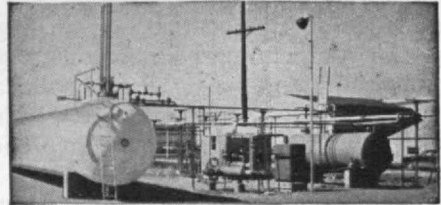
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## SPECIAL REPORT



Mr. HENRY H. COBB, JR. NEW YORK LIFE AGENT  
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**BORN:** October 8, 1920.

**EDUCATION:** Princeton University, A.B., 1943.

**MILITARY:** U.S. Army—First Lt., Field Artillery; Feb. 12, 1943–October 12, 1945; Distinguished Service Cross, Purple Heart. U.S. Army—Major, January, 1951–November, 1952.

**REMARKS:** After being released from active duty as an Army Lieutenant with an outstanding service record,

Henry H. Cobb became associated with New York Life's Birmingham General Office. This was on October 13, 1945. He was recalled to active duty during the Korean War and returned to New York Life in 1952 to resume his career. Henry Cobb's enthusiastic approach to solving his clients' insurance problems and his congenial manner helped him roll up an impressive sales record—one which has qualified him for the Company's Presidents Council. In 1958 he was first to qualify for New York Life's new honor designation—Group Millionaire. He added to these honors by winning membership in the industry-wide Million Dollar Round Table of which he is a 1958 Qualifying and Life member. His performance thus far makes it possible for Henry Cobb to look forward to an even more distinguished future as a New York Life agent.

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## DECADE IN REVIEW

(Continued from page 162)

worthy cause. During the past two years, a Regional Director of the Alumni Fund has organized hard-working alumni groups to make personal solicitations in several scores of cities. Paid personnel working on Alumni Fund activities certainly must have doubled in the last decade.

Two conferences for Class Officers, and two for Class Agents, Special Gifts Chairmen, and other "working personnel" of the Fund have been held on the M.I.T. campus shortly after Labor Day for the past four years. Lasting a day and a half, these conferences provide a stimulating and active program for those who participate in them.

The Technology Review faces a steadily growing volume of reading material that must be processed each month. The amount of copy for each set of Class and Club Notes, alone, is equivalent to that of a full-length novel. Despite constantly rising costs, for more than a quarter of a century The Review has consistently more than earned its operating expenses, and its annual surpluses have helped to defray expenses elsewhere. There has been no increase in The Review's advertising or editorial staff since at least 1945. In addition to their Review duties, since 1949 the Business Manager has devoted a large part of his energy and time to the Institute's Development Program and, at the request of the Administration, its Editor has been responsible for producing a second monthly publication related to the Institute's research program.

### Other M.I.T. Activities of the Decade

Obviously it is not possible to chronicle here all of the major events that have transpired at the Institute in the past 10 years, and which have engaged the attention of a steadily growing administrative staff.

Today, M.I.T. students engage in virtually all college sports, except intercollegiate football. M.I.T. has been especially strong in sailing and in rowing, and is fortunate in having the Charles River Basin at its doorstep. In 1947, the Institute hired its first full-time Director of Athletics, and an Athletic Board replaced the Alumni Advisory Council on Athletics.

As has long been true at M.I.T., students take part in all manner of hobbies and extracurricular activities. Perhaps the biggest change to develop in M.I.T. students, particularly in the last decade, has been their growing interest and strong participation in good music. The students' innate interest in music could be effectively nurtured as M.I.T. engaged a staff member for music appreciation in 1947. Of course many students have their own high-fidelity sound-reproducing systems and their record collections reflect a predominant interest in classical music. Students also participate enthusiastically in concerts in Kresge Auditorium. In recent years, the Choral Society has won international renown with two highly successful European tours, as recorded in the November, 1958, issue of The Review.

One might mention, too, the astounding growth of the Summer Session. No longer is summertime primarily a period for laggards to make up studies, or for the alert and ambitious students to gain advanced standing. Today, the Institute is about as busy during the summer months as it is in the regularly scheduled school year. But now summer courses generally cater to the needs of professional workers in industry. A score or more of special courses, conferences, and symposia are offered every summer, and each lasts from a few days to two weeks. Enrollment in the regular Summer Session (for M.I.T. students) has decreased fairly regularly from 2,146 students in 1948 to 1,548 students in 1957. There were 171 enrolled in the first special Summer Session in 1949, and this grew to a peak of 2,497 in 1956 and reached a more manageable figure of 1,757 in 1957, the last year for which data are published.

Worthy of mention, too, is the increased attention that has been given to all phases of student, Faculty, and staff health — especially in the fields of preventive and occupational medicine. Radiations of one kind or another produce potential hazards of a type not known a decade back on college campuses, and the deleterious effects of such radiations must be guarded against. Moreover, obnoxious waste products of many kinds must be properly and promptly disposed of.

Greater attention than ever before is also given to helping freshmen adjust themselves to college life at the Institute. Incoming students are more carefully

(Concluded on page 166)

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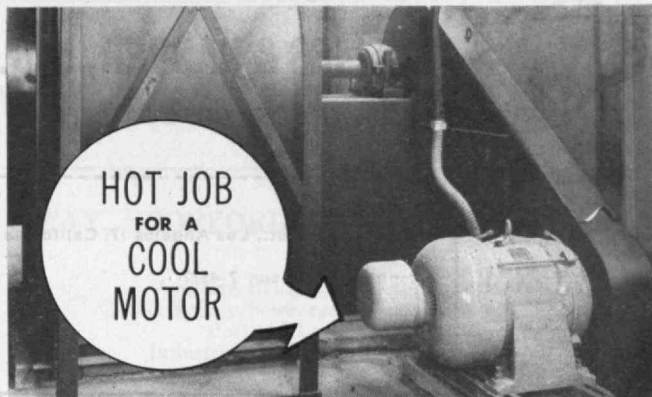
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## DECADE IN REVIEW

(Concluded from page 164)

selected, not only by the M.I.T. Admissions Office, but also by a large group of loyal Alumni who form the Educational Council and, as ambassadors of good will, represent the Institute in their local communities. As a result of careful selection, there is a smaller number of students dropped because of their inability or failure to meet the Institute's high academic standards.

The growth of the Graduate School in the past decade has likewise been surprisingly rapid. Whereas 1,602 students, comprising 29.5 per cent of the total student body, were enrolled in the Graduate School 10 years ago, last year 2,515 graduate students were enrolled, and these made up slightly more than 40 per cent of the total student body. Ten years ago, 647 graduate degrees were awarded, and this number has grown to 851 in 1958. During President Killian's administration, 7,232 graduate degrees have been awarded by M.I.T.

## Conclusion

Numerous other significant events might be selected for mention here in recounting achievements of the past decade. But space is a factor to be reckoned with in presenting this review. So, too, is time, for less than a week is available for the entire preparation of this review—from initiation of an idea to the completion of manuscript, illustrations, and layouts—and of course this survey is but a portion of The Review's editorial activities for the month. Action of the M.I.T. Corporation sets one time limit beyond which knowledge of anticipated events becomes a certainty, and the deadline for Review copy just happens to be scheduled for the same day that the M.I.T. Corporation meets!

The past decade at M.I.T. has been an exciting, intensely active one. President Killian, together with his Faculty and administrative staff, may look back on a distinguished record of outstanding achievement, and all can take pride in the results accomplished. Dr. Killian's present assignment in Washington is one of international significance and cannot help but have a wide and beneficial influence on the nation's educational and science programs. Alumni will follow his career with intense interest, patiently awaiting his return to M.I.T., and confident in the knowledge that his future contributions will continue to have utmost significance.

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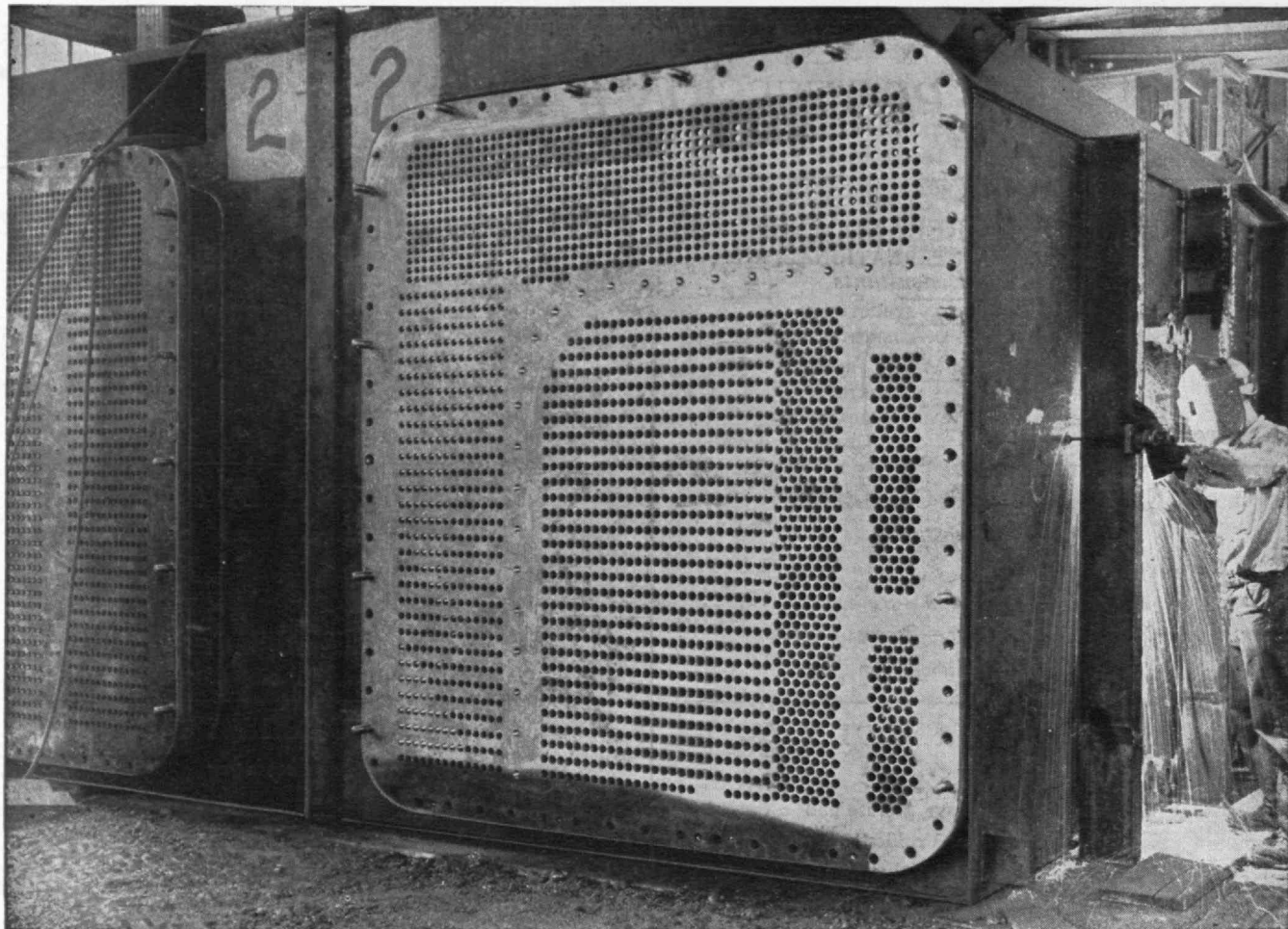
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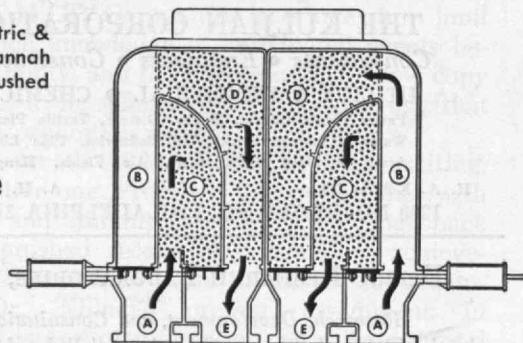
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*and the prophet replied:  
"It is well to give when asked, but it is  
better to give unasked, through understanding."\**

## *Gifts by Will*

### TO THE Massachusetts Institute of Technology

The tale is told of Almustafa, the prophet, who, having awaited for many years the ship that would return him to the place from whence he came, was making the final descent to the shore when the folk of Orphalese crowded about him. They besought him before departing to "disclose us to ourselves, and tell us all that has been shown you of that which is between birth and death."

With words of wisdom, an answer appropriate was given to the woman holding a baby, to the ploughman, to the merchant. Begged one, "Speak to us of GIVING," and the prophet replied:

*"It is well to give when asked, but it is better to give unasked, through understanding;*

*And to the open-handed the search for one who shall receive is joy greater than giving. All you have shall some day be given;*

*Therefore give now, that the season of giving may be yours and not your inheritors'."*

Through the years the prophet's words have held true, for even today he who "through understanding" includes the MASSACHUSETTS INSTITUTE OF TECHNOLOGY as a beneficiary in his will can experience thereby a two-fold satisfaction. The successful culmination of his search for a worthy recipient and the anticipated results his generosity will assist in accomplishing. These satisfactions give an added value to the span of man's days and project his usefulness to his fellowmen far into the future.

The Massachusetts Institute of Technology because of the high quality of the education given its students, its effective research work for aiding America in peace as well as in war, and the high character of its governing body and academic staff qualifies as an institution for serving our American ideals for the present and in the years to come.

But the search, the finding, and the anticipated accomplishments are not enough; for without the properly-worded record, man's plan for the future may go awry. Hence the prophet's importuning, "—give now," should be heeded. The giving need not be an immediate physical transaction, for written directions replace the spoken word when the speaker is no longer present, and a donor can frequently make by will a gift which is larger than he can make while living. Truly, *"it is well to give when asked, but it is better to give unasked, through understanding."*

A booklet "Gifts by Will," outlining different forms of bequests to M.I.T., is available to you or to your attorney by writing to:

Director of Development  
Massachusetts Institute of Technology

Cambridge 39,

Massachusetts

\* "The Prophet" by Kahlil Gibran

# ALUMNI AND OFFICERS IN THE NEWS

## Step by Step . . .

In addition to the 20 Alumni recorded on pages 132 and 133, others have advanced as follows:

JACOB C. MUSKIN'27 as a partner, Singmaster and Breyer, metallurgical and chemical process engineers, New York . . . JAMES A. MORTON'30 as a member, board of public works, Wellesley, Mass. . . . KENDALL CLARK'31 as manager of military engineering, American Bosch Division, American Bosch Arma Corporation;

WALLACE B. TIBBETS'31 as vice-chairman, Materials Division, the Packaging Institute . . . GERALD C. RICH'35 as manager of products engineering, Sylvania Electric Products, Inc., Mountain View, Calif. . . . STUART V. CUTHBERT, JR.'37 as engineer assistant to the vice-president, the American Machine and Foundry Company, New York;

DAVID N. SUMMERFIELD'37 as engineer in charge of motor design, Skill Corporation, Chicago, Ill. . . . NATHANIEL I. KORMAN'38 as director, Advanced Military Systems, Radio Corporation of America . . . DAVIS R. DEWEY, 2D,'41 as a director, Atomic Industrial Forum, Inc.;

JEAN C. HARTSHORNE'43 as a member, municipal light board, Wakefield, Mass. . . . JOHN F. MARR, JR.'46 as a member, planning commission, Meriden, Conn. . . . ROGER P. SONNABEND'46 as a member, board of governors, Boston University Human Relations Center;

JAMES W. CARR, JR.'47 as head, Engineering and Operating Section, Esso Research Laboratories, Baton Rouge, La. . . . EDWIN S. LAWRENCE'47 as manufacturing manager, Foundry Department, General Electric Company, Everett plant . . . ARNOLD M. VARNER'47 as production development manager, Standard Packaging Corporation, Chicago, Ill.;

JOHN H. HUGHES'47 as assistant director, technical division, Electronic Computer and Data Processing Department, John Hancock Mutual Life Insurance Company . . . DANIEL A. ESAKOV'51 as manager of computer engineering, General Research and Engineering Laboratory, Underwood Corporation . . . ALBERT W. VINAL'54 as staff engineer, Digital Circuits Department, Owego plant, International Business Machines Corporation . . . JOSEPH L. RUSSELL'55 as director of engineering research, Scientific Design Company, Inc., New York.

## Year by Year . . .

Among the Alumni to whom birthday congratulations are appropriate during the month of January are three who turn 90; six who become 85; and fourteen who mark their 80th year, as listed below with dates of birth:

January, 1869 — RAUL DE R. CARVALHO '92 on the 1st; SPAULDING BARTLETT'90 and GEORGE A. CALDWELL'93 on the 10th.

January, 1874 — FREDERIC S. ATWOOD

'97 on the 6th; WILLIAM S. MATTOCKS'96 on the 7th; ALLEN S. CROCKER'97 on the 9th; WINTHROP COOLIDGE'96 on the 14th; EDGAR M. HAWKINS'97 on the 17th; and GEORGE A. CUTTER'95 on the 24th.

January, 1879 — FRANCIS H. MCCRUDEN'00 on the 5th; EMORY S. LAND'07 on the 9th; LLEWELLYN L. CAYVAN'00 on the 13th; JAIME GURZA'03 on the 15th; EDWARD C. SCOFIELD'03 on the 16th; EDWIN F. CHURCH, JR.'01 and RICHARD W. SENDER'05 on the 17th; JOHN R. MARVIN'02 on the 18th; RALPH H. STEARNS'01 on the 19th; LAWRENCE H. LEE'03 on the 21st; SAMUEL C. LIND'02 on the 25th; RICHARD E. DOW'01 on the 27th; BENJAMIN F. CLARK, JR.'01 on the 29th; and DUNCAN WEMYSS'02 on the 31st.

With the addition of these 28, the rolls of the Alumni Association will include a total of 77 nonagenarians and, in addition, 741 octogenarians.

## Page by Page . . .

Recent publications by M.I.T. Alumni and personnel include these books:

*Some Things Worth Knowing*, a discussion of areas of knowledge in which the author feels the intelligent layman should be versed, by STUART CHASE'10 (New York: Harper and Brothers, 1958, 288 pages, \$3.95);

*Management's Stake in Research*, by MAURICE HOLLAND'16 with contributions by others (New York, Harper and Brothers, 1958, 143 pages \$3.50);

*Little Red Newton*, an accurate story for the young reader, by Louise D. and Norman D. Harris and illustrated by HENRY B. KANE'24 (Boston: Little, Brown, and Company, 1958, 57 pages, \$2.75);

*Vacuum-Tube and Semiconductor Electronics*, one of a series in electrical and electronic engineering, by JACOB MILLMAN'32 (New York: McGraw-Hill Book Company, Inc., 1958, 653 pages, \$10.00);

*The Attenuation of Gamma Rays and Neutrons in Reactor Shields*, a clear and thorough discussion using material from many sources, by HERBERT GOLDSTEIN'43 (Washington, D.C.: U. S. Atomic Energy Commission, 1958, 306 pages, \$2.00);

*Mathematics of Physics and Modern Engineering*, by RAYMOND M. REDHEFFER'43 and I. S. Sokolnikoff (New York: McGraw-Hill Book Company, Inc., 1958, 810 pages, \$8.00);

*The Academic Mind*, a portrayal of the character of the American college professor focusing on social science instructors, by WAGNER P. THIELENS, JR.'46 and Paul F. Lazarsfeld (Glencoe, Ill.: The Free Press, 1958, \$6.50);

*Electronic Circuits*, a unified treatment of vacuum tubes and transistors, by ERNEST J. ANGELO, JR.'49 (New York: McGraw-Hill Book Company, Inc., 1958, 450 pages, \$9.00);

*Microwave Transmission Design Data*, by THEODORE MORENO'49 (New York: Dover Publications, 1958, 257 pages, \$1.50).

## Obituary

HERBERT R. FITCH'92, November, 1958  
JOSEPH P. LYON'92, October, 1958  
ABRAM GARFIELD'96, October 16\*  
EDWIN R. OLIN'97, September 16\*  
KENNETH M. BLAKE'99, October 18\*  
MISS JANE R. CUTLER'99, July 18\*  
JEROME P. JACKSON'99, September 14\*  
ROBERT L. WILLIAMS'01, October 16\*  
MRS. LAVAL M. WRIGHT (LENORA D. MARTIN)'01, March 3, 1956

CLARENCE M. ALLEN'02, September 17\*  
GEORGE H. DONHAM'03, October 9\*  
BERNARD W. LATHAM'03, September 23\*  
LEAVENWORTH P. SPERRY'04, November 22

WALTER BURNS'05, November 5  
JOSEPH C. FIELD'05, October 19\*  
MRS. C. S. MADDOCK (ELIZABETH H. MIDDLETON)'05, November 3

HENRY B. SIEBRECHT'05, April, 1957\*  
ALBERT H. SMITH'05, November 19  
FRANK D. WEBSTER'05, October 8\*  
HOWARD P. ADAMS'06, March 12, 1958\*

HAROLD V. O. COES'06, December 4  
ARTHUR E. FEELEY'06, December, 1956\*  
JESSE W. G. HANFORD'07, July 17\*  
JOHN H. LINK'07, October 31

JAMES G. MOORE'07, September 9\*  
MERTON W. SAGE'07, November 11\*  
ADOLPH ZUEST'07, July 16\*  
WILLIAM C. TAYLOR'08, November 2\*

PHILIP SMITH'09, November 3  
GEORGE N. VARNEY'09, December 11, 1955\*

HARRY G. KNOX'10, October 29\*  
WILLIAM L. SMITH'10, May 22\*  
CHARLES A. MAGOON'11, November 9  
JEROME A. APPELQUEST'12, August 8\*

WILLIAM E. HERRON'13, September 25\*  
FRED L. RAND'13, May 7, 1957\*  
CARL L. STUCKLEN'13, November 9  
MYLES S. MAXIM'14, October 19\*

ERNEST D. WILSON'14, October 19\*  
JOHN H. CONDITT'15, no date given  
NELSON W. TURNER'15, October 29  
THOMAS S. HOLDEN'16, November 3, 1958\*

PING Y. LOO'16, October 13\*  
A. C. CARLTON'17, November 12  
FRANK MAGUIRE'17, October 23\*  
JOHN H. EARL'18, January 3\*

MALCOLM R. MCKINLEY'19, October 9\*  
ARTHUR F. WILLIAMS'20, September, 1958\*

JOSEPH G. HAUBER'21, September 28\*  
DAVID J. ABRAHAMS'22, November 17  
CHARLES R. BARTON'22, October 10  
WILLIAM E. ZIMMERMAN'22, in 1957

JAMES P. HUGET'24, November 3  
FREDERICK WINSOR, JR.'25, November 26

HARLAN R. JESSUP'28, October 12\*  
SAMUEL A. GORDON'29, October 26  
LAWRENCE E. HOVIK'35, March 27\*  
HARRY T. FINN'38, February 4, 1954

WILLIAM W. BROWN'42, November 19, 1957\*

CARL THOMSEN'48, May, 1958\*  
STANLEY A. KORYLAK'50, October 21  
JAMES A. LOONEY'52, May 9\*

\*Further information in Class Notes

# NEWS FROM THE CLUBS AND CLASSES

## CLUB NOTES

### Atlanta

The Atlanta Alumni Association was privileged to have as its guests Dean and Mrs. Tom Pitre at a dinner meeting the 15th of October. Dean Pitre outlined the recent developments at the Institute in the general area of student activities and support. It was most enjoyable to hear that the Institute is so energetic and progressive in support of student activities and aid.

Attendees were Mr. and Mrs. Henry A. Dick'49; Mr. Earle Blount'28; Mr. and Mrs. Thomas H. Goodgame'53; Mr. and Mrs. C. P. Moore, 3d'48; Mr. and Mrs. John D. Turci'50; Professor and Mrs. B. J. Dasher'52; Mr. and Mrs. Fred N. Dickerman'30; and Mr. and Mrs. W. T. Shuler'38. Mr. Joe D. Cornwell, 3d, was a student guest. — W. T. SHULER'38, *Secretary*, 4423 Mount Paran Parkway Northwest, Atlanta 5, Ga.

### Central Massachusetts

Our 1958-59 season started with one of the finest plant tours experienced by this club. On Wednesday, November 5, we visited the Wyman-Gordon Air Force Plant at North Grafton. This plant, built by the Air Force and operated by Wyman-Gordon, is a major producer of intricate aircraft and missile forgings. After a fine dinner in the company cafeteria, Arthur Lowery'32 introduced Joseph Carter, Manager of Operations—Eastern Division, and a member of the Research Department. These men gave illustrated talks on some interesting new developments in forging technology. Also shown was a new company movie which proved to be an excellent introduction to the following plant tour. Of particular interest to the group was the operation of the 50,000 ton closed die forging press, the largest press of its kind.

During the business meeting the following officers were elected: President, Robert Dawes'26; First Vice-president, Haskell Gordon'38; Second Vice-president, Robert Brown'22; Treasurer, Robert Hessel'27; Secretary, Irvine Williamson'50; Assistant Secretary, Harry Duane'57. On the executive committee are G. R. Blake'39, Edward Dawson'51, James Haggett'47, Richard Harris'48, Herbert Hayden'23, Harry Kahn'20, Max Levine'25, and Harrison Thibault'49.

The next meeting will be held at the Mt. Pleasant Country Club on Tuesday, December 9. Herb Hayden'23 will show pictures which he took in Alaska this past year. Again this year we will have a Boston Pops night as the finale to the season. Watch for later news as to the date of this affair.

This year we plan to have a Presidents' Night at the Hotel Bancroft, March 19.

Plans are now underway to make this the biggest affair that this club has ever undertaken. Dr. J. A. Stratton'23 will be our main speaker and we hope to have a splendid turnout of educational and civic leaders in addition to the M.I.T. Alumni of central Massachusetts. — IRVINE F. WILLIAMSON'50, *Secretary*, 21 Eastwood Road, Shrewsbury, Mass.

### Cincinnati

The M.I.T. Club of Cincinnati began its season of activities with a dinner for members and their guests at the Colony Restaurant on November 5. The speaker was Mr. Ed Mason, Agent-in-Charge of the Cincinnati office of the Federal Bureau of Investigation. He told of several local cases which have recently involved the F.B.I. and discussed their investigative procedures. The audience was unanimous in this conclusion: if one must break laws, let them be city or state laws, not federal. After Mr. Mason finished his talk, he answered questions for about a half an hour. Incidentally, he did not have his gun with him.

The Alumni who attended were: Tom Russell'27, Norman Gordon'43, Charles Urban'91, Louis Michelson'40, Charles Axelrod'48, Clarence Spiehler'08, Bob Bertaux'48, Bill Herberg'46, Will Fraser'47, Marvin Byer'49, Bob Thirkield'47, Bob Keefe'51, Frank Iskra'48, Charles Seifert'48, Dave Prince'51, and Ed Fox'50.

If our mailing list has overlooked anyone, please contact JAMES S. STOLLEY'52, *Secretary* of the M.I.T. Club of Cincinnati, Beckett Paper Company, Hamilton, Ohio.

### Duluth

On October 30 last the M.I.T. Club of Duluth had the good fortune to receive a visit from William H. Brown'33, Associate Professor of Architecture at the Institute.

We thoroughly enjoyed Professor Brown's visit, and part of the good fortune resulted from a dinner at the home of our worthy President, Arthur Josephs'28.

Everyone concerned looks forward to these visits from the M.I.T. "brass," since a great part of the entertainment is handled by a talented hostess, Mrs. Josephs, who sets before us nourishment fit for the gods. Now we cannot take care of the Faculty all at once, but let it be known that Mrs. Josephs, at one time, was assistant to Oscar at the Waldorf and that we have some excellent northern Minnesota moonshine.

Our dinner party consisted of the following: Arthur C. Josephs'28; Robert M. Mix'52; A. D. Ludden; D. H. Radford'12; C. R. Bailey'23; J. C. Hunner'32; P. N. Starin'50; D. M. Chisholm'44; J. M. Bayly whose son, Elliott J. Bayly, has entered in the Class of '62; and C. D.

Steele'08. — CARROLL D. STEELE'08, *Secretary*, 408 West First Street, Duluth 2, Minn.

### Lehigh Valley

The fall meeting of the M.I.T. Club of the Lehigh Valley was held on Thursday, November 6, 1958, in the University Room of the Hotel Bethlehem at Bethlehem, Pa. The selection of the date proved to be unfortunate due to conflicts with other local affairs, and as a result only 23 members attended. Nevertheless, a fine dinner was enjoyed and everyone had a good time.

A brief business meeting was conducted by our new prexy, Whit Spaulding'21. As a result of the action taken by the club a year ago to discontinue the building up of a local scholarship fund in view of the general Alumni Fund now assuming this overall function, it was announced that the total sum of \$428.00 presently in the local fund would be forwarded to M.I.T. to be applied to the M.I.T. Scholarship Fund but earmarked for Lehigh Valley recipients. Announcement was also made that a Lehigh Valley undergraduate is now studying at Tech under a full scholarship. Mention was made of the fact that contributors to the 1959 Alumni Fund may designate all or any part of their donations to the Lehigh Valley Scholarship Fund and the class and region would still receive credit for the contribution.

Mr. Spaulding then introduced the speaker, James H. Brown'55, instructor in the M.I.T. Department of Metallurgy, whose subject was "Materials Approach in Metallurgy." It proved to be an interesting and informative talk on new trends of thought in mineral and metallurgical technology, concerning the material and its environment, with the objective of the selection or construction of material best suited to a given task. He illustrated several points with slides and emphasized the concept of the "oneness in science" in this approach. A question period followed the talk as usual. — J. T. ACKER'24, *Secretary*, 154 Langhorne Avenue, Bethlehem, Pa.

### New York

More than 100 members and guests who were lucky enough to attend the fall dinner meeting of the Westchester Section of the M.I.T. Club of New York, in addition to enjoying a highly successful social get-together and an excellent dinner were favored by a most outstanding presentation of the current Middle East situation by David A. Shepard'26.

Dave Shepard, who is a director of Standard Oil Company of New Jersey, gave, from firsthand experience drawn in part from a trip to the area only a few months back, an excellent review of the Middle East situation based largely upon the theme of rising nationalism. Following an excellent and authoritative presen-

tation, Mr. Shepard delighted members and guests with a series of color slides and appropriate comments touching upon political, social, and cultural aspects of the area. At the conclusion, Mr. Shepard was pressed by a highly stimulated audience to answer a variety of specific questions until it was necessary to bring the meeting to a close at a rather late hour.

At this writing we are looking forward to our first technical seminar to be held on December 4, 1958, under the chairmanship of John Calkin<sup>32</sup>. A large attendance is expected to hear Professor Philip M. Morse discuss "Operations Research at the Institute." Plans for the Silver Stein Dinner scheduled for November 17 are now complete. You will have the high lights of this annual event in the next issue of *The Review*.

We are still expecting to hear from members who have not paid dues for the 1958-59 fiscal year. These dues are needed if the Club is to achieve a balanced budget this year.

We regret to announce the passing of members Charles Blaney Breed<sup>97</sup>, Howard L. King<sup>15</sup>, and Thomas R. Weymouth<sup>97</sup>. Professor Breed was professor emeritus at the Massachusetts Institute of Technology and an authority on railway and highway transportation. He died at the age of 82 on August 9, 1958. Mr. King was associated with nearly every New York City tunnel project since 1921. He was vice-president and chief engineer of Mason and Hangar Company when he died at the age of 69 on September 21, 1958. Mr. Weymouth, the developer of the "Weymouth Formula" for measuring the flow of natural gas through a pipeline was, until recently, a vice-president of the Columbia Gas System of New York. He died after an illness of several months on September 22, 1958. — VERNON O. BOWLES<sup>33</sup>, *Secretary*, Holly Ridge Farm, Katonah, N. Y.

## Northern New Jersey

Our second meeting of the year was held Tuesday evening December 2, at the Hotel Suburban in East Orange. The guest speaker was William Chartner, an economist for McGraw-Hill, who gave us a very timely talk and some real information in his "Punch Bowl Predictions for 1959." There weren't any tape recorders in the audience, but there surely were many who were taking notes. Despite the weather we had 69 members there, which indicates the interest in the subject.

President Sumner Hayward advises that the next meeting will be held in Paramus, and the speaker will be Elmer Tangerman, Editor of *Product Engineering*, speaking on "An Intimate Look at Russian Industry." Mr. Tangerman has just returned from a rather extensive trip to Russia, and we are sure that he will have some very timely comments. — PAUL M. HEILMAN<sup>44</sup>, *Assistant Secretary*, 616 Forest Avenue, Westfield, N. J.

## Oklahoma

The fall meeting of the M.I.T. Club of Oklahoma was held at the Oaks Country Club in Tulsa on October 23, 1958. Dr. Richard Mungen<sup>47</sup> was appointed

chairman of the 1959 Tulsa Alumni Fund. Dr. Peter S. Eagleson<sup>56</sup>, Assistant Professor of civil engineering at M.I.T., gave an interesting illustrated talk describing the hydrodynamics laboratory at the Institute and some of the research projects being carried out there. The following officers were elected for 1958-59: President, Breene Kerr<sup>51</sup>; Vice-presidents, Robert K. Schumacher<sup>45</sup> and Lloyd W. Vickery<sup>29</sup>; Secretary-Treasurer, Ernest T. Schoenwald<sup>44</sup>; Executive Committee, Bernard E. Groenewold<sup>25</sup>, Edward H. Damon<sup>27</sup>, and Scott W. Walker<sup>40</sup>.

The following M.I.T. Alumni were present for the meeting: Bert B. Beals<sup>54</sup>; Robert H. Burns<sup>46</sup>; A. W. Chandler<sup>37</sup>; James R. Cowles<sup>37</sup>; Paul A. Cushman<sup>11</sup>; Jess E. Dew<sup>48</sup>; John P. Dowds<sup>51</sup>; Joseph D. Eisler<sup>32</sup>; Howard Grekel<sup>47</sup>; B. E. Groenewold<sup>25</sup>; Breene M. Kerr<sup>51</sup>; Omer Kircher<sup>55</sup>; Paul A. Lobo<sup>50</sup>; Van Be Luong<sup>56</sup>; R. Bruce Miller<sup>56</sup>; Richard Mungen<sup>47</sup>; Siegfried E. Penner<sup>45</sup>; Gilbert V. Rohleder<sup>48</sup>; Ernest T. Schoenwald<sup>44</sup>; Samuel C. Stephan, Jr.<sup>50</sup>; Robert W. Vahlberg<sup>37</sup>; and Scott W. Walker<sup>40</sup>. — SIEGFRIED E. PENNER<sup>45</sup>, *former Secretary*, 2511½ South Boston Place, Tulsa, Okla.

## Philadelphia

Since our spring meeting at Longwood, our group has had two get-togethers. Last summer, on August 16, 86 of us assembled at Wiley (<sup>39</sup>) Corl's residence in Gladwyne where we enjoyed a catered clambake and all sorts of activities such as swimming, bowling on the green, and badminton.

On October 27, we had a meeting at the Franklin Institute attended by 120. Dean George R. Harrison was our after-dinner speaker. He provided us with an entertaining dissertation about the impact of advances in modern science on humanity in a talk entitled "Science and the Modern World."

We heard from the Alumni Office that a number of our people in this area have been honored by appointment to the M.I.T. Corporation Visiting Committees. They are Nathan Cohn<sup>27</sup>, Selden Spangler<sup>32</sup>, Hood Worthington<sup>24</sup>, Samuel Homsey<sup>26</sup>, and Lombard Squires<sup>31</sup>.

Our next meeting is scheduled at the Barclay Hotel on January 27, 1959.

We have received a letter from Harlan R. Jessup, Jr., bearing the sad news of the death of his father, a member of the Class of 1928 and former resident of Swarthmore, Pa., on October 12 in Tulsa, Okla. — HERBERT R. MOODY<sup>41</sup>, *Secretary*, 3010 Tower Road, Huntingdon Valley, Pa.

## Puget Sound

The first meeting of 1959 will be held in mid-January; we will be privileged to hear Vice-admiral Frank R. Watkins, who was recently installed as the commandant of the 13th Naval District. Admiral Watkins, former commander of the anti-submarine defense force for the Atlantic Fleet, will speak on "Submarine Warfare."

Dr. Julius A. Stratton<sup>23</sup>, Chancellor and Acting President of M.I.T., will speak

to us on April 30 regarding activities at the Institute. More details to be announced in subsequent club notes.

Dean H. E. Lobdell<sup>17</sup>, Executive Vice-president of the M.I.T. Alumni Association, met with several members of the executive and educational committees at the Rainier Club in Seattle in mid-October. The objectives of regional conferences were discussed, as well as the machinery for running such a conference. Tentative plans were formulated for a conference in the Puget Sound area on a Saturday in October or November of 1959. Additional details to be announced. — FRED I. FICKENWIRTH<sup>52</sup>, *Secretary*, 5020 Baker Avenue, Seattle 7, Wash.

## Quebec

The M.I.T. Club of Quebec held its annual dinner meeting on October 23, 1958, at the Queen's Hotel in Montreal. The guest speaker was Professor Delbar P. Keily<sup>34</sup>, Associate Professor in the Department of Meteorology at M.I.T. Professor Keily spoke mainly about the procedure for interviewing prospective students for M.I.T. and the work of Educational Council.

Nominations and elections for the year 1958-59 took place. As a result, the executive committee is now composed as follows: President, R. Barry Graham<sup>39</sup>; Vice-president, Henri Audet<sup>45</sup>; Secretary-Treasurer, Bernard Lachapelle<sup>55</sup>; Councillors, term expiring in May, 1959, E. Langevin<sup>30</sup>, Robert S. Sproule<sup>47</sup>; Councillors, term expiring in May, 1960, Edwin L. Williams<sup>34</sup>, Florian Leroux<sup>45</sup>; Councillors, term expiring in May, 1961, Kenneth B. Lucas<sup>32</sup>, Albert Cholette<sup>32</sup>.

The Alumni attending the meeting were: Henri Audet<sup>45</sup>, J. Arturo Chavez<sup>51</sup>, F. J. Friedman<sup>08</sup>, R. B. Graham<sup>39</sup>, R. H. Guthrie<sup>39</sup>, D. B. Harper<sup>51</sup>, H. B. Hollander<sup>38</sup>, S. J. Hungerford<sup>33</sup>, B. R. Lachapelle<sup>55</sup>, J. Laurence<sup>40</sup>, F. Leroux<sup>45</sup>, K. B. Lucas<sup>32</sup>, F. D. Mathias<sup>36</sup>, J. F. McKay<sup>49</sup>, J. R. Portelance<sup>37</sup>, J. M. Raymond<sup>34</sup>, A. T. E. Smith<sup>21</sup>, R. S. Sproule<sup>47</sup>, J. N. Stephenson<sup>09</sup>, M. G. Vezina<sup>57</sup>, and E. L. Williams<sup>34</sup>. — BERNARD R. LACHAPELLE<sup>55</sup>, *Secretary-Treasurer*, 1600 Pine Avenue West, Montreal, P. Q., Canada.

## South Texas

The club held a meeting at the Memorial Drive Country Club in Houston on Monday, November 10. The speaker was Professor Charles L. Miller<sup>51</sup> of the Civil Engineering Department of M.I.T.

Professor Miller was on his way back from the M.I.T. Regional Conference at Albuquerque, N. M., on November 8. He made a very educational and inspirational talk on the present courses and work being done, particularly by the automatic computers, in the Civil Engineering Department. There were approximately 100 men and ladies present; this is the largest attendance we have had.

At the meeting new officers were elected for the next two years, and they are as follows: Thomas H. Jenkins<sup>32</sup>, President; Sid F. Atlas<sup>43</sup>, Vice-president; and Glen V. Dorflinger<sup>46</sup>, Secretary-Treasurer. The entire program was very de-

lightful, and the club is looking forward to a new and more attractive program this year under new leadership. — **GEORGE B. MORGAN**'20, *Retiring President*, Texas Metal Works, Beaumont, Texas.

## Western Pennsylvania

This club started its 1958-59 season under the leadership of President Ing Madsen'33 with a meeting at the University Club on October 20, 1958. Twenty-six members and three guests were present, including Mr. J. Samuel Jones of the M.I.T. staff, who was in the area on Institute business.

After the usual excellent dinner, Dr. H. H. Richardson, President of the Pittsburgh Roentgen Society, gave a timely and interesting illustrated talk on his two trips to the Antarctic. — **STUART D. MILLER**'32, *Secretary*, 3043 Dwight Avenue, Pittsburgh 16, Pa. **GEORGE M. COLVILL**'51, *Assistant Secretary*, R. D. 1, Eightyfour, Pa.

## Women's Association

The first fall meeting of the M.I.T. Women's Association was held on Wednesday, October 8. The members and their guests met for dinner at the Faculty Club. The program for the evening was a visit to the studios of Station WGBH-TV.

At the station, we first watched an actual telecast of the "Science Reporter" program. We heard and saw Volta W. Torrey interview Dr. Frederick C. Frick, psychologist at Lincoln Laboratory, about problems involved in designing a machine which will respond as desired to human speech patterns. We were then taken on a tour of the station's facilities by Mr. Peter Winn. We were impressed by the amount and quality of programs WGBH manages to produce on a limited budget. — **ANNA BAILEY**'54, *Recording Secretary*, 61 Columbia Street, Brookline 46, Mass.

## CLASS NOTES

### 1889

From a letter received by Frederick G. Fassett, Jr., Dean of Residence at M.I.T., we learn that Welles Bosworth received honors recently in France: "Welles Bosworth'89, architect of the main group of M.I.T. buildings, has recently been decorated by the Minister of Public Education and the Fine Arts in France, as "Commandeur dans L'ordre des Beaux Arts et des Lettres," for his help for many years in the restorations of the palace and gardens of Versailles and Trianons, as well as Fontainebleau and the Cathedral of Reims. Bosworth has for many years been a commander in the Legion of Honor and a member of the French Institut Academic Des Beaux Arts. He is a fellow of the American Institute of Architects and National Academician at home; and, of course, a fellow of the American Academy of Arts and Sciences in good old Boston."

Since 1950 Mr. Bosworth, who will celebrate his 90th birthday on May 8 of

this year, has been residing in France. His address is: Villa Marietta, Vaucluse, Seine and Oise, France.

### 1891

This very wonderful story of our friend and classmate, Carleton A. Read, appeared in the April 9 issue of the *Worcester (Mass.) Gazette*: "Professor Carleton A. Read of 15 Hackfield Road tomorrow will be given an award rarely presented by the American Society of Mechanical Engineers. He will receive a special membership pin and certificate denoting 65 years of continuous membership in the society.

"The pin and certificate will be presented to Professor Read in his home by Charles E. Crede, regional vice-president of A.S.M.E., who will be in Worcester for the society's National Production Engineering Conference in Hotel Bancroft.

"Professor Read, who will be 90 April 23, retired from the faculty of Worcester Polytechnic Institute in 1934 after a long career as professor of steam engineering and superintendent of heat and power. After his graduation from Massachusetts Institute of Technology in 1891, he remained there as an instructor for seven years. It was at this point in his career that he joined the A.S.M.E.

"I well remember the annual meetings of the society in those days," recalls Professor Read. "The headquarters were in a rented room in New York. If you didn't get to the meeting early, you couldn't tell who was there because the cigar smoke got so thick."

"When he joined the A.S.M.E. in 1893, it was only 13 years old and one of the first technical societies in the country. Today it is one of the largest.

"Steam engineering has always been his chosen field. While an instructor at M.I.T., he received one of the first steam engineers' licenses issued in Massachusetts. In the latter part of the Nineteenth Century, boiler explosions were very common. Hardly a day went by that newspapers didn't carry a headline about a locomotive, steam boat, or industrial boiler exploding, usually taking several lives. Licensing the men who operated boilers was one step in preventing explosions and reducing the chance of human failure. However, boilers still exploded when metal failed, seams burst, or safety valves failed to function.

"One of the major projects which that new technical society undertook was in the boiler field," says Professor Read. "They studied the causes of explosions and prepared a code of standards which were designed to eliminate mechanical failure. Success didn't come overnight, but eventually the A.S.M.E. boiler code became accepted as a standard."

"Although he was interested in all phases of steam engineering, the professor never owned a steam-driven automobile despite their popularity for a time. 'I lay awake too many nights worrying about whether the Tech boilers had enough water in them to have any desire to ride around on top of a boiler,' he says.

"He and Mrs. Read have lived in their Hackfield Road home since 1912. Married 64 years, they have three children,

three grandchildren, and eight great-grandchildren.

"Because he has lived through the greatest period of scientific progress man has known, a natural question concerned his reaction to such new developments as earth-girdling satellites. His reply was simple: 'I don't say "no" to anything anymore.'"

After such a story as this, there is little that the Secretary can say except to express the gratitude and admiration the remaining members of his Class feel upon this high honor which has been bestowed on our friend.

Carleton has made his home and working center since his graduation in Worcester, which has been for a century one of the most substantial centers of commerce and industry in the eastern states. Here the influence and inspiration of this competent, highly skilled engineer, this teacher of generations of youth in Worcester Tech, this thinker and churchman, has gone into human society at a period of rapid and almost violent change in the habits of thinking and feeling of the human race. No man can rightly estimate the value to society of such a man in such a spot, in the midst of a silent revolution taking place in human thought and feeling.

And to you, dear Carleton, and to your devoted wife, we remove our hats in affection and regard. — **WILLIAM CHANNING BROWN**, *Secretary*, 15 Forest Avenue, Hastings-on-Hudson 6, N. Y.

### 1893

We are happy to report that Charles M. Spofford has received the Frank P. Brown Medal of the Franklin Institute. Mr. Spofford was honored for "the engineering, aesthetic, and educational accomplishments of his life work, exemplified in his prompt recognition, espousal, and clarification of valid structural theories; his design of many large and beautiful bridges, and other prominent engineering works; his contributions to engineering education through teaching and administration of an engineering educational department; and his authorship of widely used textbooks."

"The Franklin Institute, Philadelphia's 134-year-old scientific and educational organization, knows no geographic boundary in awarding its medals. During its history, the Institute has recognized hundreds of scientists, such persons as Thomas Edison, Guglielmo Marconi, Professor and Madame Curie, Albert Einstein and Enrico Fermi, in an effort partly to reward them for their labor and, at the same time, to interest young people in science as a rewarding career." Mr. Spofford's daughter and son-in-law, Mr. and Mrs. Walter J. Beadle'17, their two daughters and their husbands attended the dinner in Philadelphia on October 15. Mrs. Beadle accepted the award on behalf of Mr. Spofford and has taken the medal, report, and certificate to her father, who is in the Mansion Rest Home in Brookline, Mass. Mr. Spofford was very much pleased to receive the honor. — **GERTRUDE B. CURRIE**, *Assistant Secretary*, c/o Fay, Spofford and Thorndike, 11 Beacon Street, Boston, Mass..

Abram Garfield, son of the martyred President Garfield, died October 16; services were held at the Trinity Cathedral in Cleveland and he was buried in Lakeview Cemetery. He was a member of Alpha Delta Phi; Union Club; Tavern Club; Century Club of New York; National Academy of Design; and a fellow of the American Institute of Architects. He was retired as active head of his firm, Garfield, Harris, Schafer, Flynn, and Williams; when the class notes for the June Review were written, he was recovering from an operation and looked forward to continuing his interest in the firm's practice. During his 60 years of architecture he found time to serve under Presidents Theodore Roosevelt, Coolidge, and Hoover on national commissions of fine arts and to head the Cleveland City Planning Commission for 12 years. He lived for almost 60 years in the house he designed in the village of Bratenahl. He is survived by his wife, Helen G. M. Garfield; a son, Edward N. Garfield; a daughter, Mrs. William R. Hallaran; six grandchildren; and three great-grandchildren. Mrs. Garfield gratefully acknowledged the sympathy extended by the Class and thoughtfully enclosed a story of her husband's life and illustrated clippings that are filed with the class records.

Joseph L. Sturtevant died also on October 16, 1958. At M.I.T. he was in the Mechanical Engineering Course. At one time he was treasurer of the Thayer Drug Company of Cambridge and later was president of the Sturtevant Mills. His home was in Quincy, Mass., where he was well known as a yachtsman and member of the Quincy and of the Scituate Yacht Clubs. He especially loved the outdoors and was an enthusiastic hunter. He is survived by his wife, Louise W. (Marston) Sturtevant, a niece, and a grandnephew.

The December Review carried the text of the resolutions adopted at the Council meeting acknowledging the services that Dr. John A. Rockwell rendered M.I.T. — JAMES M. DRISCOLL, *Secretary*, 129 Walnut Street, Brookline 46, Mass. HENRY R. HEDGE, *Assistant Secretary*, 105 Rockwood Street, Brookline 46, Mass.

## 1897

The following acknowledgment of our Class's gift to Camden Community Hospital in memory of Charles Breed has been received from his daughter-in-law: "The members of the family of Professor Charles B. Breed wish to extend to you and the M.I.T. Class of 1897 their deep appreciation for the donation sent to the Camden Community Hospital.

"We were so happy that he could celebrate his *sixtieth* class reunion. He was an illustrious Dad, and we have many cherished memories which will live with us always. Sincerely, Ocy Breed, 47 Gay Street, Newtonville, Mass."

The following tribute to Tom Weymouth was written under the date of October 9 by Edgar M. Hawkins, 14 Stoddard Road, Hingham, Mass.: "A letter from George Wadleigh brought word of our loss of Tom Weymouth, another of

'97's grand men. It was my good fortune to observe the enthusiasm that he had for detail. At one time a hobby of his was photography. With a full complement of cameras his interest was centered in their lenses. He toured Kodak's lens department and discussed with the men both the theory and practice connected with their design and manufacturing. They were surprised and impressed with his knowledge and familiarity with this intricate subject.

"Tom's real interest in sailing began at Bemus Point on Lake Chautauqua. One winter he absorbed all there was in the textbooks on the subject. When the season opened he was ready to hoist sail and skipper his own boat, which he did with success — not a simple task on an inland lake with its tricky winds.

"I have often wished that our paths might join. To meet him was always an inspiration."

Tom Weymouth's stepson, William G. Loomis, 318 Lakeside Drive, Bemus Point, N. Y., wrote to George Wadleigh as follows: "Aunt Grace wrote that you were responsible for the lovely floral tribute of yellow and white gladioli sent by 'M.I.T. Class 1897.' Would you please thank them for their deep and sincere sympathy in the passing of our beloved Papa Tom. I know he will be missed by many, just as he was loved by many.

"I have a picture from your last M.I.T. class reunion, and I do hope you can identify the boys for us. When I come to New York to close the apartment I will call you. I feel I should call you 'George' I have heard so much about you for so long. Most sincerely, Mary and Bill Loomis."

With much regret we report the death at his home, 98 Park Street, Braintree, Mass., on September 16, of Edwin R. Olin. A graduate in Course X, he was a quiet and retiring personality and a loyal and devoted member of the Class, also a faithful attendant at our reunions. His presence will be greatly missed. He died suddenly in his garden one day before he and Mrs. Olin planned to leave for a vacation. Mrs. Olin, a native of Milton, Mass., writes as follows: "We were married in 1912, and he came to Braintree to live then, from his Roxbury home. He went with the Boston Elevated Railway as civil and electrical engineer on leaving M.I.T. and served there 50 years. He has enjoyed his retired years — his friends and his garden, being keenly interested in horticulture. He was a member of the Horticultural Society, a life member of the Appalachian Society, a member of Columbian Lodge in Boston and of the choir of his church — All Souls in Braintree (Unitarian). He was an enthusiastic member of the Historical Society of Vermont, from which state the family originally came.

"In more active years he delighted in bowling as a sport and was a member of the Cochato Club bowling team, here in Braintree. His friends often commented on his extraordinary memory and fund of general knowledge — a great reader. His stories and wit were ever ready.

"Hoping I may have given you something you can use, and with appreciation of your letter, sincerely, Anna C. Olin."

Note the following change in address: William R. Wood, 5800 Sacramento Avenue, Richmond, Calif. — JOHN P. ILSEY, *Secretary*, 26 Columbine Road, Milton, Mass.

## 1898

In the November '58 class notes, we promised a write-up from our gracious host at the Algonquin Club, George T. Cottle, concerning certain aspects of the get-together. We had looked forward to this with anticipation because of George's facility in descriptive writing. The following notice appeared in the *Boston Herald* of Tuesday, October 28:

"George Thurston Cottle, of 15 Copley Street, Jamaica Plain, died suddenly at his home, yesterday. He retired as treasurer-manager of the Crofoot Gear Co. in South Easton, March 1, and was planning an around-the-world trip for early next year. He was graduated from English High School and Massachusetts Institute of Technology, where he was trained in chemistry. Following employment in Wallingford, Conn., he founded the A. A. Wire Co. at Newark, N. J., in 1912 and retired in 1928. Later he became treasurer-manager of the Crofoot Gear Co. at South Easton and remained with that firm up to his second retirement this year. He was a member of the Lotus Club and University Club of New York, Algonquin Club of Boston, and The Country Club of Brookline. Mr. Cottle was one of the organizers of the Essex Electrical League. He was a trustee of Hebron Academy in Maine and Northeastern University. He was interested in young people and put 13 of them through college. He leaves three sisters, Misses Louise, Clara, and Phoebe Cottle of Jamaica Plain."

It is difficult to write these lines, as George and the writer have been close friends from primary school days. We recently received from George on the occasion of our 81st birthday, October 22, the following typical greeting card: "Happy Birthday to a Good Friend for over 75 years. A wonderful record and experience. My best and warmest as usual, George."

Services were held in Waterman Chapel, Boston, Mass., on Thursday, October 30. The Reverend H. E. Pomeroy of the Boylston Congregational Church, Jamaica Plain, a prominent divine of the Boston area, officiated and combined quotations from the Bible and other literature and prayer most effectively. The Waterman organist played appropriate selections before and after the services. Thus was fulfilled the laughing remark of our classmate, "I don't want my funeral to be lugubrious, but as cheerful as may be."

The Waterman Chapel was more than filled with those who came as a tribute. The family and relatives and friends sat in the private balcony upstairs; others were on the ground floor, filling all the pews and arranged around the side seats. It is impossible for the writer to mention more than a few in attendance. M.I.T., for whom George had done so much in his active and generous career, was represented by Dean George R. Harrison, Ralph T. Jope'28, H. B. Kane'24, and

Miles S. Sherrill '99; and the Class of '98 by Edward S. Chapin, F. A. Jones, Robert Jones, Joseph C. Riley, Mrs. Arthur A. Blanchard, Miss Marion L. Chapin and Mrs. George W. Treat. Roger W. Babson of the Class of '98 was in Africa; but George Babson, whom classmates will remember for his helpful activity at our 55th, came to represent him and Babson's Reports, Inc. Among others we may mention Dr. Carl S. Ell '11, President of Northeastern University; David F. Edwards, a fellow trustee of Northeastern University; Dr. Claude Allen, President of Hebron Academy, Maine; and Mr. Neubert Morse, President of the Crofoot Gear Works, Inc., of which Company George was treasurer and executive manager until his recent retirement. The passing of George was posted on the bulletin board at the Algonquin Club, in which club he was active, and various representatives from the club attended. Several telegrams and letters of condolence were received. '98 sent a floral tribute.

We think that this brief write-up should appear in *The Technology Review* at the earliest possible moment. We have considerable material in our files which must await other and later issues of *The Review*. We are flying the next few days to visit the Furburs in Philadelphia, after which we will recur again to '98 and M.I.T. life. — EDWARD S. CHAPIN, *Secretary*, Hotel Vendome, 160 Commonwealth Avenue, Boston 16, Mass.

## 1899

Again it becomes my duty to record the passing of several of our classmates.

Through the courtesy of Ed Chapin, Secretary of the Class of '98, I have a clipping from the *New York Herald Tribune* recording the death, on October 18, of Kenneth M. Blake in that city. Ken was our class day marshal. Immediately after graduation he became associated with the Stanley Brothers Company of Newton, Mass. Formerly manufacturers of glass-backed photographic plates, they became interested in the production of steam-driven automobiles. I remember that Ken gave me my first ride in a horseless carriage. A year or so after that event (1901?), he became connected with the Locomobile Company of America. He represented that company in Europe for many years, his headquarters being in Paris, France. Among his customers were members of the royal families on the European continent; the Archduke Franz Ferdinand of Austria, whose slaying sometime later started World War I, being one of them. Later he joined the Mack Truck Company in New York City, of which firm he was vice-president when he retired in 1937.

Jerome P. Jackson died at his home in Sandy Hook, Conn., on September 14. He lived in Minneapolis, Minn., before coming East. He was architect of many public buildings—among them the Rockefeller Institute for Medical Research, New York City—also for many churches. He graduated from Amherst College before coming to the Institute. During World War I he was a captain in the Corps of Engineers in charge of military construction at Angers, France.

Through Gardner Barry and a friend, Thomas A. Waterman, I have received a tribute to the memory of Lawrence Soule, whose death was recorded in these columns last April: "Larry was a confirmed individualist with a brilliant mind, great capabilities—a good friend, but exacting on himself and his friends to the point of perfectionism. It would be hard for me to believe that he ever made a mathematical error."

Miss Jane R. Cutler of Brookline, Mass., died on July 18, according to a notice received by the Alumni Office. A letter and a telephone call to her former address were not answered. — BURT R. RICKARDS, *Secretary*, 349 West Emerson Street, Melrose 76, Mass. PERCY W. WITHERELL, *Assistant Secretary*, 84 Prince Street, Jamaica Plain 30, Mass.

## 1900

Robert S. Blair died on October 13, 1958. Bob was born in Waterbury, Conn., 81 years ago. He graduated from M.I.T. with us in 1900 from course VI, and then went to George Washington University Law School. After graduating there he became a member of the New York Bar and engaged in the practice of patent law, which he continued from 1904 to 1950. Among the firms with which he was associated were: Emery, Varney, Blair, and Hoguet; Januery, Blair, and Curtis; and Blair, Curtis, and Hayward. Bob and his wife, Mabel, lived for many years at Skippan Point, Stamford, Conn. Later they lived in Darien, Conn.; and after his retirement in 1950 they moved to South Woodstock, Conn. He was a member of the former Suburban Club in Stamford, and during his long membership in the Stamford Yacht Club he held several posts. Besides his wife, Bob left three sons: John Corson Blair of New Canaan, Conn., member of the Stamford patent law firm of Blair, Spencer, and Buckles; Robert Farnham Blair of Arlington, Va.; and Wilfred Benton Blair of Woodstock, Conn.; and six grandchildren. He was a very constant attendant at our reunions as long as he was physically able, but had been ailing for the past two or three years. — ELBERT G. ALLEN, *Secretary*, 11 Richfield Road, West Newton 65, Mass.

## 1901

I have the very sad duty to report to you the death of Bob Williams at his daughter's in Norwich, Conn., on October 16. He had been in poor health for some months. He was a retired engineer having served as chief engineer of the Submarine Signal Co. of Boston, where he was active in research in underwater sounding devices and fog horns. He was one of our more prominent members and had probably done as much for the Class as anyone. He was secretary of the Class from 1907 to 1920 and from 1934 to 1936, filling out the term of Allan Rowe. He was president from 1941 to 1946. I think that none of us can show a more loyal record. He was always interested in the Class and wrote frequently to Mrs. Peterson. A note of sympathy was sent to his daughter in the name of the Class. We honor his memory.

The following is a reply received last April from Roger Wight: "Your class letter and financial report dated February, 1958, was delivered to me at the Cape Cod Hospital, where I was in process of recovering from a bad case of pneumonia which followed immediately as I was recovering from a broken right leg which occurred on December 2, 1957. I am now, however, commencing to feel like being rather active again and hope to pick up some commissions to be used to pay hospital bills, and so forth, it not having proven possible to accomplish much between my discharge from the hospital on June 1, 1957, and the time when I broke my leg on December 2. Furthermore, as I indicated to you on June 3, 1957, relative to our contemplated next reunion in 1959, I am still hoping that both Mrs. Wight and I can be present."

William Sturtevant, VI, in Providence, writes: "At this late season in life I am still working regular hours. I am now going through life alone except for a daughter here and a sister in California."

Jay N. Pike, IV, Minneapolis, Minn.: "Dentist. Practice limited to orthodontics." Frederick Smith, I, of Towson, Md., simply notes that he is retired.

Richard Dow, V, Hamburg, N.Y.: "Having nothing in particular to do, I'll write you a few lines—but having nothing in particular to say, I'll close. No, that really isn't it—it's just that when a fellow gets about so old, people seem to consider him not a part of the modern and existing world and one is given a feeling similar to that supposedly experienced by our new citizens from abroad. Of course you and I have been around for some time and expect present practices to be as they are, so probably we don't mind observing and listening to some ambulance-chasing lawyer take up our time and attention. Can you make out the outstanding thought in the above?"

Arthur G. Hayden, I, Saint Michaels, Md.: "Very much retired except for improving my eight-acre shovelful of dirt down here. Thirty acres may be called a place; 100 acres or so? (I don't know); 1,000 acres may be called an estate if a colonial mansion about 300 years old goes with it. So you see we are quite nobody. Whereas coming from a suburban home, we thought eight acres quite something. The place has an interesting history, however, dating from about 1670, and I take pride in improving it. Last July (1957) I was elected a member of the New York Academy of Sciences. Last September while I was swimming in the ocean off the North Carolina coast a lumbering Coast Guard amphibian came at me full speed and ran directly into me, knocking the wind out of me. I drowned good and proper. Artificial respiration brought me to, and I heard one doctor say to the other, 'Well, I guess he's a goner.' That roused my dander. 'Like H--- I am,' and I got down to the business of coming back. As so often happens, I had pneumonia later on. I saw a door and knocked. It opened a crack and I saw Satan peeking out. 'Git out.' So here I am yet."

Nat Patch, II, Buffalo: "Sorry I haven't anything new to report at this time except to say that I wish I might promise to be

at the class reunion. It does seem that the group is getting less and less every year and it is getting harder and harder to find the health and strength to be present, see the old crowd, renew old friendships, and uncover the losses that one has not been aware of because of distance. When we get with the gang we find old faces no longer appear, to our great regret."

There will be no class notes in the February issue as the class letter appears during that month. I think that Bob Derby will have further details of the coming reunion to give out before long. — THEODORE H. TAFT, *Secretary*, Box 124, Jaffrey, N.H. WILLARD W. DOW, *Assistant Secretary*, 78 Elm Street, Cohasset, Mass.

## 1902

The following letter received by Dan Patch from John L. Jones, VI, should be of interest to all who knew him. "Dear Dan: It is with much pleasure that I have received the personal longhand note you added to the bottom of the October M.I.T. Alumni Fund general letter. Yes, I am the same Jones who was in Deering High School, Portland, Maine, when the M.I.T. musical club gave a concert there April 20, 1898. You were probably one of the guests at my house at the time. I recall another man, Mat Brush ('01), now deceased. That was 60 years ago—much has happened to us all since then. My wife and I came out here in 1952 to be nearer our son, who now resides in Granada Hills, Calif.; he is all we have left.

"In 1919 I had a stroke following my return from France, where I was an engineer officer, World War I. In 1929 I was wiped out by the financial crash. It is due to a combination of physical and financial disability that I have not been able to do all that my heart has prompted for the M.I.T. Alumni Fund. After becoming disabled I went to Florida for a good many years. That makes me now a combination of Yankee, Southerner, and Californian. At heart I have never ceased to be a Yankee. I have plenty of respect for California, regardless of its 'sins,' one of which is heat. Up to about a year ago my son lived near Santa Cruz with a home in the Santa Cruz mountains. It was delightful there, but we all came here (Arcadia) to get in the hottest September and October in Southern California in over a century. That is not good for my condition, and as a result I spend most of my time hugging an air conditioner.

"I recently received word of the decease of Marshall Leighton—he must have been around 1896. He and his wife were close friends of my wife and myself. He moved from Washington, D.C., to his summer home, 'Shore Acres,' near Portland, Maine. He had a stroke, died in his sleep. You probably have record of all that. I would like to drop in and see you but I do not expect to get East again. I am trying to get the situation straightened out—are you an elder brother of Claude Patch?" Dan is going to give him the straight facts!

The *Barre* (Mass.) *Gazette* reports the death of Clarence Allen on September 17, 1958, in Gates Mills, Ohio, where he lived for many years. To quote from the article: "Born in Barre, the son of

Charles G. and Lucy R. Allen, he was a graduate of Barre High School and the Massachusetts Institute of Technology, from which he took his engineering degree in 1902. As a young man he taught mathematics and physics for five years at St. Xavier College in Nova Scotia before entering the family business [the Charles G. Allen Co. of Barre, of which he was president at the time of his death].

"In 1907 Mr. Allen went to Cleveland and became associated with the Strong, Carlisle, and Hammond Co., distributors of machine tools. He later became a director of the company. Mr. Allen built up a highly respected position in the machine tool world and was the designer of most of the machines built by the Charles G. Allen Co. In 1916 he founded and was co-owner of the Hammond Manufacturing Co. in Cleveland, also a machine tool manufacturing concern. Last May he left the Strong, Carlisle organization to join the recently formed Tri-State Machinery, Inc., distributors of the Allen machine tools.

"In his early years, Mr. Allen was a hockey player and a member of Cleveland's first professional hockey team. He was active in Cleveland civic and community affairs, a former member of the Mayfield board of education and of East Cleveland Rotary. He was a former director of the Euclid Glenville Hospital and a member of the Chagrin Valley Country Club. He leaves his wife, Dorothy G. Allen; two sons, Gilbert L. Allen of Cleveland and Robert H. Allen of Barre; four grandchildren; and his brother, Charles G. Allen, of Barre."

From a letter written to Dan it would appear that Harlen Chapman, V, is enjoying life in Winter Park, Fla.—busy with golf and playing bridge once a week at the University Club. Finds the city is growing too fast to suit him, but welcomes the new state office building as it will add prestige to the city. He is much interested in the new Presbyterian Church building which is being erected for the fast growing membership of the society.

William R. Lewis, I, who has served the town of Foxboro, Mass., for about 50 years in various capacities, resigned in August from his last job, that of assessor, which he had held for 16 years. At the time of his resignation he was recovering from an illness, but he hopes to be still available in an advisory capacity. This sketch of his busy life in Foxboro is taken from a press clipping: "Bill Lewis came to Foxboro in 1905 as a young engineer surveying locations in relation to the construction of the trolley line which connected several towns in this area. The job took four years, during which time Mr. Lewis became enamored of Foxboro and this part of the country. His first service to the Foxboro town government came shortly after coming here. He was appointed a fence viewer by the late Ezra Comey. In those days this job entailed considerable work, since there were many controversies over property lines, especially in farming areas.

"Mr. Lewis served from 1911 to 1929 as a water commissioner, from 1916 to 1929 as a member of the school committee, and from 1930 to 1932 as a member of the advisory committee. During the

1930's he planned and supervised the making of a new map of Foxboro. For three years he was highway superintendent, and since 1942 he has been a member of the board of assessors.

"During his long career, Mr. Lewis has been employed by a number of engineering firms such as Stone and Webster, and French and Bryant. He was with Bird and Son, East Walpole, as an engineer for six years. He was associated with many large structural projects in the Greater Boston area. In 1941, he joined the Service Company and was manager until 1951. He was responsible for design and construction of such local buildings as the Fire Station, Orpheum Theatre, Putnam's and McKenzie's garages, and The Foxboro Company garages. Total worth of buildings which he designed and constructed was estimated at about \$15 million." — BURTON G. PHILBRICK, *Secretary*, 18 Ocean Avenue, Salem, Mass.

## 1903

Our esteemed Class Agent, Thomas E. Sears, was fatally stricken October 18, 1958, at a testimonial dinner being held at the Braintree, Mass., Armory. He was speaking in honor of Water Superintendent, Donato T. Richiardi, when he suddenly collapsed. Having served as water commissioner for nearly 30 years prior to his retirement a few months previous, he felt obliged to attend this gathering, although advised against it on account of a known heart condition that had restricted his activities for some time.

Born in Honolulu, July 15, 1882, the son of sea Captain Benjamin Warren and Louise Cornish Sears, he received early training in the Plymouth, Mass., public schools and graduated from the Institute in Mechanical Engineering. He served as a risk engineer for a number of insurance companies and was later associated with the National Board of Fire Underwriters and the Chicago Board of Underwriters, with which he developed widely used formulae for buildings with sprinkler systems, before entering the insurance business for himself. He was the founder and president of the Thomas E. Sears Insurance Company of Boston, in which he remained active up to the time of his death. He came to Braintree in 1910 and took active part in civic and church affairs. In 1911 he was named to a committee that recommended the purchase of mechanical fire apparatus and shared in the decision to buy the town's first pumper and ladder truck. In 1927 he became a member of the board of water commissioners and was elected chairman in 1945. On his retirement he was honored by the adoption of a resolution lauding his efforts in making the Braintree water system one of the best in the state and stressing his activities as a public spirited citizen.

A summer resident of Wellfleet, he served as commodore of the Wellfleet Yacht Club, chairman of the governors of the Chiquesset Country Club, a director of the Norfolk County Trust Co.; he was a member of the Society of Mayflower Descendants, the Boston Rotary Club, the Braintree and Wellfleet Historical Societies, the Newcomen Society, the New

England Waterworks Association, and the Insurance Advisory Association.

He leaves his wife, Helen J. (MacCarthy); two sons, Thomas E., Jr., of Scituate and Richard W. of Cohasset; two daughters, Miss Helen Jane Sears of Braintree and Mrs. Victoria Sears Thaler of Beverly; and six grandchildren.

Your Secretary was privileged to attend the funeral service at the First Congregational Church in Braintree, which was packed to the doors in tribute to a beloved citizen. The Class deeply regrets the loss of one of its most active and honored members.

George H. Donham, 78, died at Hahnemann Hospital in Worcester, Mass., October 9, 1958. A tool designer by trade, after taking a two-year course at the Institute he taught manual training and forging at a Kansas City High School, at the University of New Hampshire, and in Leominster, Mass. At the outbreak of World War I, he was employed in drafting departments of Worcester defense plants. For several years he was with the Norton Company in Worcester. He also worked in Bridgeport, Conn., and for the United Shoe Co. in Beverly, Mass. During World War II he was employed by a Springfield, Mass., engineering firm, doing defense work. Since 1913 he had been a resident of Upton, Mass. He was fond of chess and was considered one of the best players in that area. He was born at Rockland, Mass., February 29, 1880, a leap year day; a son of George E. and Adelaide (Studley) Donham. He often joked about being a teen-ager, as he only had a birthday once in four years and in 1900 even that one was omitted. Survivors are his wife, Edith (Briggs) Donham; a son, Allan S. Donham of Upton, Mass.; a daughter, Eleanor, wife of Herbert Streeter of Charlestown, N.H.; a sister, Miss Agnes Donham of Newton, Mass.; five grandchildren; and three great-grandchildren.

Bernard W. Latham, II, of Pleasure Beach, Conn., died September 23, 1958, at the age of 77 years in the Uncas-on-Thames Hospital, Norwich, Conn., following a period of failing health for the past two years. Born in Willimantic, Conn., May 28, 1881, the son of William H. and Emeline (Burnham) Latham, he attended grammar and high schools in Willimantic. He was a member of the American Society of Mechanical Engineers and a licensed professional engineer of New York. From 1906 to 1918 he was employed in the Engineering Department of the New York Central Railroad and as assistant mechanical engineer during the construction of Grand Central Terminal; from 1918 to 1920 as chief engineer for Cass Gilbert, architects, New York City; from 1920 to 1926, principal engineer for Murrie and Co., consulting engineers of New York City. Later employed by American Cyanamid Co. in New York City, he was also a valuation expert for the New York Public Service Commission. Up to his retirement about 14 years ago, he resided in Crestwood, N. Y. He had summered for many years at Pleasure Beach, Waterford, Conn., and had lived there permanently since that time. During retirement, he took active part in community affairs, being treasurer of the

Waterford Beach Association and a member of the Goshen fire department. He is survived by his wife, Helen Fenton; three sons: Captain William S. Latham, Honolulu, John B. Latham, Louisville, Ky., and Captain Richard C. Latham, U. S. Navy, Norfolk, Va.; and a daughter, Mrs. Dorothy L. Pitney, Denver, Colo.

Your Secretary is happy to note that Hermon F. Bell has written another book, entitled *Talks on Religion*, recently published by the Philosophical Library, Inc., of New York, which should interest even strictly science-minded folk. H. S. Baker reports: "We have a picture of our baby great-grandson, Donald, with his mother, grandmother, great-grandmother and great-great-grandmother. Five generations!" Can anyone match that? Our Florida contingent is growing; G. H. Gleason expects to be at the Langford Apartments, Winter Park for the rest of the season and would welcome a call from visiting classmates. — LEROY B. GOULD, *Secretary*, 36 Oxford Road, Newton Centre 59, Mass. — AUGUSTUS H. EUSTIS, *Treasurer*, 131 State Street, Boston 9, Mass.

## 1904

In the July edition of these notes you learned that Bernie Blum had been selected as one of a team to go to Thailand and assist the government in reorganizing its transportation system and that he was taking his wife with him. A letter from Bangkok dated October 23 says they left St. Paul on June 11 by air, visited Tokyo and Hong Kong, and reached their destination on June 20. The team of 10 is studying all forms of transportation, with Bernie as the railroad expert. The letter states that they expect to finish the job in about six weeks, after which the Blums will fly home via Europe and arrive before January 1.

Bernie gives some interesting facts about Thailand. Of the railways he says: "They have 3,474 route kilometers of one meter gauge constructed 40 to 60 years ago with 50-pound rail, which is now being relaid with 70-pound. They are setting up a fixed rail welding plant equipped with a German-made automatic welding machine, and future relays will be made with continuous welded or ribbon rails. Every track is ballasted with crushed rock. The allied bombers did heavy damage to the country, especially around Bangkok, and to the railway property, fixed and rolling. The reconstruction has largely been done, but the modern development of the land requires a number of additions and betterments. The U.S. has contributed several million dollars, and large loans have been made by the World Bank. The railways are being dieselized as fast as possible; one half the gross revenue is from passenger traffic. There are some good trains with compartment cars and diners (they call them restaurant cars)."

General comments are as follows: "Population is about 20 and one-half million with a 2 per cent per annum growth. Bangkok population is about 1 and one-half million. Across the river is a twin city, Dohon Buri, where the land is only about five feet above mean sea level and

a multiple of canals crisscross to form a transportation system and drainage. There are many beautiful homes and buildings and ornate Buddhist temples covered with an acre or two of gold leaf. On the other hand, multitudes have a low standard of living.

"Rice is the main export item, supplemented by lumber (teak), rubber, tin, and various agricultural products. The economy is growing at the rate of 3 to 4 per cent annually, not much above population growth.

"We are fortunate in having a modern air-conditioned hotel and not a bad dining room. On August 8 we celebrated our 50th anniversary with a little party, and the hotel did itself proud. We gave no hint to our guests, but later they presented us with a beautiful typical Thai platter and teapot, gold-plated to match the occasion. There are a number of Americans here, largely on U.S. government missions.

"I will be interested to know what you plan for the 55th reunion. Incidentally, there are four or five M.I.T. graduates on the Railway, all Thais. Give our best regards to all the Class."

By the time you read this, we hope the Blums are safe home in St. Paul. Bernie apologizes, as a veteran railroad man, for coming home via air; but train service from Bangkok to U.S.A. is very poor, so we will excuse him.

This is a good spot to mention a brief note from Guy Palmer, who says that he and Louise plan to come east in June and hopes we are to hold a reunion on the Cape. He has recovered from last spring's operation. Louise is scheduled for a hospital trip, but both hope to be o.k. for June.

Please note that Bernie and Guy are anticipating a pleasant reunion with some of you at our 55th. We would like to hear the same news from many more.

Through the kindness of Fred Goldthwait '05 and John C. Damon '05, we received a copy of *Pacific Stars and Stripes* in which was a write-up about air mail. There was a picture of our late classmate Earle (Volts) Ovington and a brief description of the first shipment of mail by air as follows: "In 1911 Earle Ovington donned a turtle-neck sweater and a leather football-type crash helmet and climbed into a tiny monoplane similar to the one in which Louis Blériot had flown the English Channel. A post office official handed the young airman a small package of letters. Ovington then successfully delivered the air mail from Garden City Estates to Mineola, Long Island."

Herb Kalmus and his wife rated quite a write-up last August in the *Boston Traveler* for a spectacular party they gave at their summer home on Cape Cod.

The *Gardner* (Mass.) *News* gives some publicity to our classmate Harry Kendall, as follows: "Harry S. Kendall, the oil tycoon, lays claim to the distinction of having had the same Bay State motor number plate for a longer period than any car owner in the Commonwealth. He has just received his 1959 plates, 4482, for the 43d consecutive year. There have been instances where the same number has been in one family for a longer period; but Mr. Kendall, who, as an M.I.T. prod-

uct, is somewhat of a statistician, avers no individual has been to the window to get the same plates as often as he has. During those 43 years, number 4482 has appeared on a wide variety of cars including a Model T Ford and a Stutz Bearcat."

Some of you who hurry south when winter comes will be surprised to learn that some reverse the procedure. Mrs. Katherine Dexter McCormick is just back in Boston from a summer in Santa Barbara and expects to winter in Boston.

In spite of poor response to previous requests, we close by saying. "Let's hear from you."—EUGENE H. RUSSELL, JR., *Treasurer*, 82 Devonshire Street, Boston, Mass. CARLE R. HAYWARD, *President* and *Acting Secretary*, Room 35-304, M.I.T., Cambridge, Mass.

## 1905

By the time these notes are read I will have retired from business, and Ruth and I will be happily settled (I hope) in a new Cape Cod house we have built in Center Sandwich, N.H. I use the word retired loosely, because neither of us ever expects to change to a life of idleness or that we will lack things to do. Our new home, Hobby Knoll, is on the south side and faces the Sandwich Range, of which the much photographed Mt. Chocorua is the eastern point. It is more or less native land to us, as my forebears (Quakers) lived in this village in the early part of the Nineteenth Century. I shall relish reading again *Look to the Mountains*, as we shall be right in the path of the journey therein described. Hence, the official headquarters of the Class will be moved 125 miles north, unless you wish to elect a new secretary nearer the center of class population.

A letter from John Damon, VI, from Seoul, Korea, gives his views in regard to the Korea Reds situation and is quoted because it gives a very good on-the-spot description. I quote: "Things are going well here and very busily because the Power Division is short four out of nine engineers. However, being busy makes the time go fast. We are somewhat nearer some of the turmoil of the world than you are, and we very much hope the politicians will not weaken or yield a hair. The Commies are dangerous and mean, but they are bluffing. The head ones are scared to death of what their own slaves may do to them if they ever go into a real war, and they don't intend to get into one. However, if our politicians start to yield anything, they will think they have us completely bluffed and may be fools enough to start something. Some of our armchair politicians have given the Commies a lot of aid and comfort by their election campaign talking. The radio said a little while ago that the Red Chinese had started again to shell Quemoy, which shows how foolish it is to expect ever to make any agreement with them. We waste untold time and money trying to make agreements that the Commies have no intention to keep but will holler their heads off about our not keeping."

"The Chinese withdrawal of troops from North Korea is all a fake. They

tell how many go out but say nothing about how many replacements go in, or how far away those who go out may go, or how soon the same ones come back. I finally went to the neutral zone at Panmunjom. It was an interesting trip but not much to see except how much happier the United Nations soldiers on the south side looked than the few we saw on the north side. Those north had no smiles or sign of happiness, and they did not want to be photographed. I hope life is going happily for you and your circle. If you see any of my friends, give them my regards." The surprising thing is that John did not say anything about release from service. In the spring of '57 he wrote that he would finish his duty within a year. Yet 18 months have passed, and he says nothing about returning.

Word received from the Alumni Office regarding Joe Daniels, III, indicates that Joe will be out of the U.S.A. until June '59. Maybe Joe has taken another teaching assignment in Asia, or perhaps just an around-the-world tour. Harvey Ellis Cline, grandson of Max Cline, entered M.I.T. in September of 1958 in the Class of 1962. Any other '05 grandsons to report? Andy Fisher reports the arrival of his 10th grandchild, a son to Edith Fisher Hunter. Alfred H. Kelling, V, has moved from Bethesda, Md., to 232 First Street, North, St. Petersburg, Fla.

Frank D. Webster, II, of Coral Gables, Fla., died at his home on October 8, 1958. His wife, Gladys, whom some of us remember at our last reunion at Oyster Harbors, writes as follows: "Frank passed away on October 8, and his funeral and burial were in Chicago on October 13. We had the Masonic service and songs, just as he requested, and he was buried in Oak Woods Cemetery. We had beautiful fall weather while we were there, and we know that he is not suffering any more. He was very ill in the hospital six days before he passed away. He was ill for three and one-half years, so we could not wish him back under the circumstances. He loved M.I.T. and would have attended all of the reunions if he had been well. I know the Class of 1905 is thinning out a bit."

We have word that Henry B. Siebrecht of Vineland, N.J., passed away in April, 1957. No other details. Joseph C. Field, VI, passed away at his home in Maplewood, N.J., on October 19, 1958. No further details, but through Course VI men in the vicinity I hope to have more of the story for the next issue.—FRED W. GOLDTHWAIT, *Secretary*, Center Sandwich, N.H. GILBERT S. TOWER, *Assistant Secretary*, 35 North Main Street, Cohasset, Mass.

## 1906

More honors have come to two members of the Class: Herbert J. Ball, II; and E. Sherman Chase, XI. The *Lowell Sun* on June 6 announced: "Herbert J. Ball, Professor emeritus at Lowell Technological Institute where he was chairman of the division of engineering and head of the textile engineering department, will be honored June 24 when he will be presented with a certificate of election to honorary membership in the American

Society for Testing Materials. Presentation will be made during the 61st annual meeting of the A.S.T.M. in Boston." You may recall that Herbert's outstanding professional and teaching career was covered in full in the class notes in the December '57 Review, and so we add another "ribbon" to Herbert's well merited laurels. Sherman is in the same category, as the class notes will testify, and he also became an honorary member of the (international) Federation of Sewage and Industrial Wastes Associations at Detroit in October. That same month Sherman also had the privilege of introducing a distinguished guest at the annual meeting of the American Institute of Consulting Engineers in New York. It was Dr. Killian, who was to be the recipient of the Award of Merit, an honor that had been accorded to only a select few by the A.I.C.E.

In November I had a long talk with President Kidder. Like other retirees, Jim is quite a help around the house; and I judge he and Alma were right busy at Thanksgiving, as they were expecting some 16—children, grandchildren, and relatives—to gather around the turkey and fixin's. Jim always attends the annual dinner of the Telephone Pioneers and at the meeting last October saw Fred Batchelder, who said they would not be going to Florida this winter. Frank Benham departed for Daytona Beach in November, and you can find him at the Mt. Vernon Motor Court. A. B. and Sadie Sherman should be at Longboat Key, Sarasota; and several of the Class are year-round residents of the sunny South. We would like very much to have a card or a note from "you all."

There are two address changes and two deaths to report. Alf E. Anderson, II, is now at 203 South Main Street, Cohasset; and Miss Jane B. Patten, VII, is at 105 Eliot Street, South Natick. In November the death of Howard Pratt Adams was reported, presumably in Fall River, but no date given; and an effort is being made to get that information to complete the record. Howard's home address was Fall River when he entered with us as a special, although in the '05 Technique he is listed as '07S in "Mechanic Arts and Drawing"; he then dropped out. He was always in business in Fall River, becoming manager and part owner of the Acme Welding Co. and the Westgate Co., making textile machinery repairs, special steel forgings, and doing acetylene welding; then general manager of the Gilbert Electric Welding Co.; and later general manager and treasurer of Crown Boiler Works, evidently retiring in the early 1950's.

A belated report was received in October of the death of Arthur Edward Feeley, II, in December, 1956, presumably in Chicago. Arthur's home address when he entered with us was Pittsfield, Mass. He did not return junior year; and the only address we had was Pittsfield until 1920, when he was in Chicago. For the next 20 years we had no address, and in 1941 he was with the Chicago Short Line Railroad Co., becoming secretary-treasurer and general manager, which position he held in 1956 when he added a note on the reunion questionnaire he sent Jim. Very likely he had been with the

Short Line Railroad Co. since 1920 when we first had a Chicago address.

This might be a good time and place to ask for booster shots for the Class treasury. Article 4 of the Class constitution (1916) reads: "The annual dues shall be \$1.00 for each member, payable January 1 of each year." You haven't been reminded of that very often lately; and as the Secretary is about destitute of class stationery, he can't write to you, so why not write to him? The Treasurer hopes you will do so soon and enclose some folding money. — EDWARD B. ROWE, *Secretary-Treasurer*, 11 Cushing Road, Wellesley Hills 81, Mass.

## 1907

A class dinner was held at the Faculty Club in Cambridge on the evening of November 7. Only seven classmates were present: Dick Ashenden, Tom Gould, Harry Moody, Bob Rand, Don Robbins, Gilbert Small, and Phil Walker. Where was the Secretary, do you ask? For the first time in 51 years he missed a class dinner, due to his being in a hospital from November 3 to November 13, and at home for a week longer, on account of a tired heart muscle condition (not angina or coronary). Phil Walker did the honors in carrying on the affair. The guest of the evening and speaker was Frederick Gardner Fassett, Jr., M.A., who is dean of residence at M.I.T. He described the problems and challenges and some of the humorous situations arising from the housing of the M.I.T. student body who live on the campus.

Carl Bragdon thoughtfully wrote to me last October telling something of a trip that he and his wife took to the Pacific Coast via the Canadian Rockies last summer. He tells of visiting Albert Greene '07 and his wife, Gertrude, in their comfortable home on Evergreen Point on the shore of Lake Washington in Bellevue, a suburb of Seattle, Wash. Albert has had some severe illnesses during recent years but has recovered and looks well. He is no longer active in the electric furnace business. One of his sons handles the inquiries which continue to come in, and a number of his furnaces are operating in this and other countries. Two other sons are conducting a school; and his daughter, a licensed pilot and a missionary, has been doing her bit in Africa.

In late October I received a friendly note from Max Greenburg, 18 Dubnow Street, Tel Aviv, Israel. He wishes that some M.I.T. men, in their travels, might visit his country. (How about it, Floyd Naramore, in some of your far-flung trips?) Max writes: "At present there are many problems with which this part of the world has to cope, and there are no signs of improvement. The world seems to get wiser with knowledge, but not with how to live with humanity. Here is where humanity started, but there seems to be much to discover."

Our sympathy goes out to John Frank, whose wife, Louise, died on last October 20, on their 44th wedding anniversary day.

A welcome letter from Robert K. Taylor received by Phil Walker last October states that since 1955 he has been doing

consulting engineering work as a professional engineer, associated with John V. Dinan at 303 West 42d Street, New York 36. From 1924 to 1928 Bob was engaged on subway construction work in Philadelphia, and on subways and tunnels in New York City from 1929 to 1955. His home address is 2725 Marion Avenue, New York 58, N.Y. During the fall of 1958, Henry Martin and his wife toured Switzerland, Italy, France, Belgium, and other places.

James Gates Moore, a graduate in Architecture, died on September 9, 1958. Jim was employed by many different firms during his career, designing, estimating, pricing, and selling structural steel for buildings, bridges, and so forth. During recent years he has been a contracting engineer, in business for himself. He is survived by his widow, 325 Lenox Avenue, Daytona Beach, Fla.

As the result of a letter of sympathy that I sent to Mrs. Moore in behalf of our Class, she wrote to me on November 11, as follows: "While my husband, Jim, was attending Tech he had pneumonia. This caused him to lose a year at Tech and left him with a bad heart. He had four operations in the last several years of his life. However, this did not stop his activities, and we had just returned from a South American cruise about a week before his death. . . . We have two sons. Edward, who has degrees in both engineering and law, lives in Fort Lauderdale, Fla. The other, James, Jr., is a journalist and photographer and works for Radio Corporation of America at Cape Canaveral."

A release dated September 10, 1958, by the Institute of Radio Engineers announced that Emory Leon Chaffee '07, former Director of the Cruft Laboratory, Harvard University, was among those named to receive a 1959 award from this Institute, the world's largest engineering society. At the I.R.E. National Convention banquet to be held next March in New York City, he will receive the I.R.E. Medal of Honor, the highest technical award in the radio-electronics field, "for his outstanding research contributions and his dedication to training for leadership in radio engineering." Dr. Chaffee, whose long and fruitful career at Harvard began in 1911, is Rumford Professor of Physics, emeritus, and Gordon McKay Professor of Applied Physics, emeritus.

You will be interested to know that Mrs. Alfreda Terry Macomber, the widow of Alex, our former class president, was married on October 2, 1958, in the Church of the Ascension, New York City, to the Reverend William Haliburton Goodall, and her address is Mrs. William H. Goodall, 135 Camino Encanto, P. O. Box 161, Danville, Calif. The *Chicago Sun-Times* of September 1, 1958, states that on August 27, the birthday of Sam Marx, an 1856 menu from Boston's famous eating spot, Jacob Wirth's, was presented to Sam at his annual birthday celebration by Andy Rebori '07 and other classmates who frequented the restaurant when they were M.I.T. students.

Jesse W. G. Hanford died on July 17, 1958, according to word received at M.I.T. Alumni Office from his widow. Jesse was a graduate in Mechanical En-

gineering. He was never at all active in class affairs, and not widely known among our classmates. He has worked as a machinery draftsman and as a civil engineering draftsman and surveyor for both private and public organizations until his retirement a few years ago. He is survived by his wife, Helen, at 143 South St., Andrews Place, Los Angeles 4, Calif. Adolph Zuest, affiliated with our Class in the Course in Electrical Engineering, died on July 16, 1958, at his home at 230 Rockdale Avenue, Cincinnati, Ohio, word to this effect having been received from his widow. I have no knowledge of his doings since 1907.

Through a telephone call on November 11 to Mrs. Nichols from one of the family who lives in Greater Boston, I learned of the death of Merton W. Sage on the morning of that day. At the time of writing these notes (November 13) I know nothing of the circumstances. In the death of Merton, '07 has lost a most loyal and interested classmate and M.I.T. has lost a widely known and highly regarded Alumnus. Merton attended Georgetown Law School from 1909-12, receiving the degrees of LL.B. (Bachelor of Laws) and M.P.L. (Master of Patent Law). He worked in the United States Patent office for two years, and then as a patent attorney for General Electric Company until 1917, when he became a member of the patent law firm of lawyers — Pennie, Davis, Marvin, and Edmonds, 247 Park Avenue, New York — where he has been ever since, and has been highly successful. He is survived by his wife, Mary, at 20 Courseview Road, Bronxville, N.Y., and by three children. — BRYANT NICHOLS, *President and Secretary*, 23 Lealand Road, Whitinsville, Mass. PHILIP B. WALKER, *Assistant Secretary and Treasurer*, 18 Summit Street, Whitinsville, Mass.

## 1908

The first dinner meeting of the Class for the 1958-59 season was held at the M.I.T. Faculty Club, Cambridge, on Wednesday, November 5, 1958, at 6:00 P.M. We had a fine turnout as Bunny Ames, Bill Booth, Nick Carter, Fred Cole, Les Ellis, George Freethy, Sam Hatch, Paul Norton, Henry Sewell, and Joe Wattles showed up. In addition, we were favored with several guests: Mesdames Ames, Ellis, Freethy, Hatch, Mayo, Norton, Sewell, and Wattles. We were very glad to see Dorathea Mayo and Mrs. Norton, who have not been before — hope they will get the habit and come again.

With such a large party it was a problem to get seats together in the Cocktail Lounge, but we were lucky and managed to capture three tables in the corner of the Lounge, so all was well. While enjoying our favorite tonics and the generous club buffet, conversations detailed the summer's doings and plans for the fall and winter. There were few if any comments on the election results of the day before. Apparently the Democrats were happy and the Republicans were hopeful for 1960.

About 6:30 P.M. we adjourned to Private Dining Room Number One and en-

joyed an excellent dinner provided by mine host Morrison. After dinner the question of a reunion on the Cape next June was discussed and all were in favor of having one, our 51st, at Melrose Inn, Harwichport, where we had our 48th and 49th. So reserve the dates of June 12, 13, and 14, 1959, and plan to be with us. Joe Wattles showed some of his fine Kodachromes, including several taken at our 50th at Snow Inn. He also showed some taken by Bill Booth on some of Bill's recent visits to the White Mountains.

We will have another dinner meeting Wednesday, January 7, 1959, at the M.I.T. Faculty Club, Cambridge, Mass. Try to make it. Remember—ladies are invited.

We are very sorry to report the death of Bill Taylor on November 2, 1958, at his home in Corning, N.Y. The following from the *New York Times* of November 3, 1958, will be of interest: "Dr. William C. Taylor, honorary vice-president and general technical adviser of the Corning Glass Company, died today in his sleep at his home here. His age was 72. Dr. Taylor had been honored Tuesday at a dinner marking the 50th anniversary of Corning's research laboratory.

"With Dr. Eugene V. Sullivan, he invented heat- and corrosion-resistant glasses, later marketed as Pyrex. He held 32 patents, chiefly in the field of glass composition.

"Dr. Taylor, who was born in San Francisco, graduated from Massachusetts Institute of Technology in 1908. He received an honorary doctor of science degree from Alfred University. In 1908 he began as an assistant chemist at the Corning Glass Works. Dr. Taylor became a chemist in 1910, chief chemist in 1923, director of glass technology in 1939, vice-president in 1943, and director of manufacturing and engineering in 1947. He became honorary vice-president in 1954. He was commodore in charge of Sea Scouting, Boy Scouts of America, in the Steuben area from 1938 to 1943.

"Dr. Taylor won the Howard M. Potts Medal of Franklin Institute in 1928 for new heat-resistant glass. He also received the Perkins Award in 1929 and the Modern Pioneers of Industry Award, National Association of Manufacturers, in 1940. He was a fellow of the American Ceramic Society, the American Association for the Advancement of Science, and the Society of Glass Technology. He was a member of the American Chemical Society and the Corning Chamber of Commerce. A former president of the local Rotary Club, Dr. Taylor also belonged to the Boothbay Harbor Yacht and the Corning Country Clubs.

"Surviving are his widow, the former Alice C. Pratt; a son, Richard G.; a daughter, Miss Marion L. Taylor; and a brother, Joseph I. of Germany."

The sympathy of the Class is extended to Mrs. Taylor and his family. Am so glad that Bill and Mrs. Taylor were able to be with us at Snow Inn on our 50th.

The following item from the *Post-Gazette* of Pittsburgh, Pa., of September 30, 1958, is interesting: "When Bell Telephone's brass held their reception for area businessmen at the Duquesne Club recently, they probably didn't know there

was a former \$4-a-week Bell Telephone repairman in their midst. But there was. One of the guests held down a summer job with the company (repairing old handring phones in South Boston) while he was a student at Massachusetts Institute of Technology. Although this repairman left Bell some 53 years ago, he has done fairly well since. His name? Colonel Willard F. Rockwell."

The *Cape Codder* of Orleans, Mass., of August 7, 1958, had an interesting article on the Old Collins House, Eastham, Mass., with a fine picture of our Dick and his brother Frank. It said in part: "The Collins brothers have a wealth of ancient papers, account books, diaries, letters, treatises, pamphlets, prints, and out-of-print books in the Old Collins House, where the brothers have traded since 1934." If you are down that way, it would be worth the time to browse around.

Remember our next dinner meeting on January 7, 1959. H.A.S.N.? — H. LESTON CARTER, *Secretary*, 14 Roslyn Road, Waban 68, Mass. LESLIE B. ELLIS, *Treasurer and Assistant Secretary*, 230 Melrose Street, Melrose 76, Mass.

## 1909

We have already reported the many awards which have come to Joseph N. Stephenson, X, such as life membership in the Canadian Pulp and Paper Association and an honorary degree from the University of Maine, all for his achievements in the pulp and paper industry. Now we have learned through Art Shaw, I, that His Excellency Vincent Massey, Governor-general of Canada, held an Investiture Ceremony on December 4 at which Steve received from him, as Chief Scout for Canada, the Silver Acorn, the second highest award in Scouting. The Class again congratulates Steve, this time for his contributions to an important community activity.

In the December Review there was a brief message from Bert Marshall, II, telling how pleasant life is in beautiful Falls Village, Conn., and how he loves it. George Wallis has just sent us a note from Bert telling of his plans to leave Falls Village and move to the Cape, where we are sure he will find it just as beautiful. The note is as follows: "Very often assistant secretaries do not have very much to do, so I am writing you and requesting that a new mailing address be registered for me. We have sold our home here and have today asked a builder to start work on a new one. For two months or more we will live on Rock Harbor Road, Orleans, Mass. Later we go to Barley Neck Road in East Orleans. The address for both is R.F.D., Orleans. I have not seen you for a long time. In fact, John Willard is the only one of the Class whom I have seen in recent years. From what I have heard Creamery Package Company has made a place for itself on skating rinks. My last work for Carrier was in the field of centrifugal refrigeration. But I have forgotten about all that. Working on the house, painting in oils a little, and enjoying a grandson and his mother who have lived with us for five years fill my time. When I bought my

lot, Jim Critchett would not have been very far from us at Orleans. Greetings from an old friend."

Following the week end of October 11, Muriel and your Secretary enjoyed a visit from Marion Jones, widow of Reg. We, of course, enjoyed discussing class people and class happenings, past and present. In addition, we were most agreeably surprised to receive a telephone call from Hazel Gram, who was visiting Carl's sister, Mrs. Watts of Wellesley, and to learn that she and Gloria were planning to drive over and see us. We had a most pleasant small reunion, Hazel discussing the progress of the project which she initiated, the "1909 Memorial Fund," contributed in memoriam by class widows. Gloria reminded me so much of Carl—tall, energetic, personable, resourceful, and full of ideas.

In the November Review in telling of the passing of George Haynes, VII, it was stated that he was survived by two daughters, Mrs. Taylor Adams (Muriel Haynes) and Mrs. Edward Coe Embury (Marguerite Haynes). The information concerning George came from Muriel in a two-page letter on stationery with the heading "Compton Advertising, Inc., 625 Madison Avenue, New York — Muriel C. Haynes, Vice-president." She stated that she graduated from Vassar in 1928 and is more or less following her father's bent in the advertising field, having been with Compton Advertising since 1936 and vice-president since 1944. Marguerite graduated from Lowthorpe School of Landscape Architecture and still practices this profession intermittently when family duties permit. George must have been proud of his two daughters. We have received, rather belatedly, the notice of the death on December 11, 1955, of George Varney, IX. He was born in 1885 and prepared at the Rochester, N.H., high school. Until September 1946 our records give his address as Bangor, Maine, at which time it was changed to Mt. Vernon, Maine. — CHESTER L. DAWES, *Secretary*, Pierce Hall, Harvard University, Cambridge 38, Mass. GEORGE E. WALLIS, *Assistant Secretary*, 185 Main Street, Wenham, Mass.

## 1910

It is with sorrow that I have to announce the death of two more of our classmates. Harry G. Knox passed away in Mechanicsburg, Pa., on October 29, 1958. William L. Smith passed away in New York, N.Y., on May 22, 1958.

My most efficient correspondent, Carroll R. Benton, sends me the report of the class luncheon held monthly in the Biltmore Hotel in New York. At the October meeting there were eight in attendance: Carroll, Fred Dewey, Gordon Holbrook, Ray Jacoby, George Magee, Erford Potter, Henry Schleicher, and Carroll Shaw. Carroll states that nothing of a world-shaking importance was discussed, although he did bring up the matter of the low standing of the Class in the donations to the Alumni Fund. Carroll has just returned from a short vacation. The following excerpt from his letter shows he is younger than most of us: "Have just returned from Atlantic City,

where Ann and I spent a few days relaxing (and, in my case, overeating). One morning before breakfast, instead of walking along the boardwalk as per usual custom, I got up nerve enough to hire a bicycle and ride a number of miles along the boardwalk (without even once falling off). How about that? First time I have been on a bike in over 40 years. (Last time was in France in summer of 1918.)"

Jack Babcock recently received a copy of the 1958 register of members of the M.I.T. Club of Southern California prepared by Hiram Beebe. It may be interesting to note that the following members of our Class are now located in this area: Bob Breyer, Walter Davis, Philip Doerr, William Drew, Leslie Geary, Ralph Haley, John Higgins, Bert Huber, Bert-holf Pettit, Herb Reynolds, and Martin Sparrow.

I have delayed describing my vacation this last summer as class notes are quite voluminous after Alumni Day. I am probably of a restless disposition and am not satisfied to take a vacation at a resort or where I see the same things every day, so took off in July for a five-week trip by auto. I covered over five thousand miles, driving not over three hundred miles a day and stopping when and where we desired. We traveled on turnpikes to Iowa, then on good but narrow roads into South Dakota. We stopped a couple of days in the Black Hills, visited Rushmore, then into Wyoming to the Tetons and Jackson Hole, stopping at Jackson Lake Lodge. It is a glorious place, barely disturbed by civilization, wonderful weather and scenery almost equal to the Alps in Switzerland. A trip down the Snake River from Moran to Mieners Ferry was most interesting, scenic, and exciting. This was as far west as we went, so we returned through Yellowstone Park over the mountains (11,200 elevation) to Billings, Mont. The Badlands of North Dakota were desolate but interesting. Then Minnesota, Wisconsin, and Michigan. The Mackinac Bridge over the head of Lake Michigan is a wonderful structure; I wanted to stop and look things over, but traffic was extremely heavy even at a toll of three dollars and twenty-five cents, and no stop could be made. We finished the trip by a cutoff through Canada to Niagara Falls, thence through New York to Newton. It really was a glorious trip greatly enjoyed by both my wife and myself. We have a wonderful country, but I am fully satisfied to live in New England. — HERBERT S. CLEVERDON, *Secretary*, 120 Tremont Street, Boston 8, Mass.

## 1911

There were 14 '11 classmates at the annual "Seven Come '11" class dinner at the M.I.T. Faculty Club, Friday evening, November 7, and Jack Herlihy reports: "Had a fine meeting and excellent dinner (choice of broiled chicken or swordfish). It was nearly 7:00 P.M. when we sat down, but we did not break up until 10:30. We all missed your physical presence, but you were spiritually there as evidenced by the poem mailed to you that evening and signed by the 14 present. Gordon Glazier, VII, was the poet — he

dashed it off at the dinner table, none of us realizing he had a poetic bent."

Here is the poetic gem your Secretary received: "At the Faculty Club at M.I.T./ We are and wish that you, too, could be;/ Since nineteen-seven Tech's not the same,/ Unless there is present one loyal name./ 'Tis 'Dennie,' with 1911 synonymous,/ Outstanding good fellow of all of us;/ So may Maine air again make you well,/ We're all pulling for you more'n we can tell." Fourteen signatures completed the fine, friendly action, and your Secretary gratefully acknowledged it to Gordon: "I knew you as a journalist,/ But never as a poet;/ Your greeting rhyme (class dinner time),/ Is convincing — now I know it!" By doctor's advice your Secretary was unable to get down for the affair, much to his disappointment. Things are improving, health-wise, and more and more activity is being allowed.

"The boys did not have much new to offer in the talk-around," Jack continues, "but there was a lot of general conversation and information and all seemed to enjoy the evening. Here is a record of the talk-around, with attendees alphabetically arranged.

"Ernest Batty, II, reported he is still on the job as architect and construction engineer for Lincoln Stores in eastern Massachusetts. Obie Clark, II, said he consummated the sale of his Nelson Cement Stone Company, Inc., Braintree, effective in December, 1958, and will continue to serve the company in an advisory capacity on a part-time basis. Marshall Comstock, VI, reported that he and Helen took a Mediterranean cruise this last spring, visiting such places as Alexandria and the pyramids. Travels also included a flight to San Francisco in August for their son's wedding. When at home (West Medford), he sings in the church choir. They have seven grandchildren.

"Gordon Glazier, VII, has been spending some of his time, since retirement, as a consultant. The rest of his time is spent on 'hobbies, projects, and chores.' The Glaziers' daughter Phyllis, our Class Baby, is associate director of the Children's Medical Center, Boston. Their younger daughter is a licensed race horse trainer! They have seven grandchildren. Gordon called attention to the National Broadcasting Company's television presentation 'Flight,' on Tuesdays at 7:00 P.M. His brother-in-law, and our classmate, General George Kenney, I, is connected in several capacities with this Hollywood-filmed re-enactment of Air Force combat, emergencies, and incidents. Watch it!

"Fred Harrington, I, announced his retirement from the civil engineering firm of Whitman and Howard in Boston. He will continue to live at 1152 Commonwealth Avenue, Allston 34. Your Assistant Class Secretary reported the only change from a year ago was another grandchild [this makes 11 now for Jack and Mabel Herlihy]. Charlie Linehan, I, retired last June from teaching and coaching at Rindge Technical School, Cambridge, but is still interested in sports, he said. We learned that Walter Brennan, the screen and television actor (The Real McCoys), was one of the football players

coached by Charlie. He was also active in obtaining passage of a retirement bill affecting certain school teachers and found his contacts with legislators very interesting and pleasant.

"Harry Lord, II, said that in addition to having become an expert leaf-raker and window-washer, he had a turn at running the Red Cross blood bank in Arlington, his current home town. Uncle Roger Loud, VI, claimed his main project now is clearing out the accumulation of four generations in his 11-room house in Weymouth. He takes time out now and then to visit his children in Minneapolis and Detroit. There are six grandchildren. Maurice Lowenberg, VI, is planning a trip to the Orient in February, which will cover 20,000 miles by air and 8,000 by sea (boat). He plans to visit Hawaii, Manila, Singapore, Ceylon, Calcutta, Bangkok, Hong Kong, and Tokyo. He and his wife have no children.

"Roy MacPherson, II, reported that in addition to doing some consulting and charity work, he has had quite a project in disposing of his cellar workshop in Framingham, which once included machine tools, woodworking tools, an electrical laboratory, and a chemical lab (and it would be no surprise to learn it also included a sheet metal shop and forge). He and Ina have two grandchildren. Carl Richmond, I, reported journeys to Yellowstone and Jasper Parks last summer. Son, John, is a first lieutenant in the Air Force, stationed in England but now in Texas on experimental work. Suren (Bog) Stevens, IV, an engineer with D'Amato and Associates, engineers, Boston, told of some of the complexities involved in highway planning for interchange of Routes 1 and 128 in Lynnfield and Peabody. His older son is now a sophomore at Tufts College, he said.

"Long distance honors, I guess, went to O. W. Stewart, I, up from Kingston (near Plymouth). He described himself as a 'dirt farmer' involved in nonsalaried board and committee work. His cultivated blueberry bushes grow bigger each year with more work required, until he is not sure whether he has the blueberries or they have him! He is president of the Massachusetts Cultivated Blueberry Growers. Here's what may be a class record: the Stewarts have 16 grandchildren! How about it — any classmates have more?"

Thanks, Jack, for a fine reportorial job on the class dinner. I note Course II was again in the lead with five present; Course I had four, Course VI had three, and Courses IV and VII one each. Jack also sent cards of those sending in regrets, from which we glean: Walter Connolly, I, has retired after 47 years of teaching in the Boston schools, during the last part of which he was headmaster of the Boston Trade School in Roxbury. He will continue to live at 16 Midvale Road, West Roxbury 32. Cal Eldred, VI, reported: "The Eldreds have just returned from an auto trip to Talladega, Ala., where we visited with our son and his family. He is now mill manager of the Bemiston Plant of Bemis Brothers Bag Company. His wife is the daughter of Howard Fessenden '13; and their son, Calvin Powell, IV, is a Bemiston Little Leaguer. His daugh-

ter, Eleanor Anne, attends Gulf Park College, Gulfport, Miss."

Carl Ell, XI, said he was sorry that he had to be in New York City on Northeastern University (which he heads) business November 6 and 7 and Philadelphia November 8. Bill Hodgman, II, President and Treasurer of Hodgman Manufacturing Company in Taunton, wrote: "Am on a Middle West business trip that I usually take each year about this time. Still 'in the harness' continuing to work for our family-owned business." Stan Lawton, V, said: "Dennie writes that 'it is rejuvenating to come to one of these events.' That's what I need, but I shall be away this time, so cannot make it."

Emmons Whitcomb, X, travel authority, wrote that he was a guest of BOAC on *Comet IV* (Jet) on its historic New York to London flight October 12—elapsed time, 6 and one-half hours. "We flew at 37,750 feet altitude," he added, "at a speed of 582 miles per hour—a great plane!" Gordon Wilkes, retired M.I.T. Professor, said: "It's a long way from Orleans (on Cape Cod), especially at night," and sent best regards to all.

On the evening of October 22, at the Sheraton Plaza Hotel, Boston, nearly 1,000 people honored Dr. Carl S. Ell, XI (who is about to retire in June as president of Northeastern University) for his 48 years of service to N.U. Jack Herlihy represented us and reports it as "a well organized affair which overflowed the main ballroom and was a fine tribute to Carl." In the handsome program, a copy of which he sent me, was a fine story of Carl's contributions to the university, which now more than fills the old Huntington Avenue grounds where the Boston Red Sox played baseball in our days. It also had a fine full-page picture of Carl's charming wife, Etta.

A review of the progress of Northeastern, under Carl's leadership through the years, was outlined by representatives of the Corporation, Faculty, Alumni, and by the principal speaker of the evening, Dr. Russell J. Humbert, President of DePauw University, whose subject was "DePauw Salutes a Distinguished Son." Carl is a graduate of DePauw with the class of 1909, joining us for his two post-graduate years and becoming a most active and enthusiastic M.I.T.'11 man.

Northeastern's Corporation honored Carl with the naming of a \$1,500,000 building the "Carl Stephens Ell Student Center"—a building finished in 1948 to become the keystone building in the main quadrangle of the fast-enlarging university. Carl also was presented a sterling silver tray with an engraved inscription on behalf of Corporation, faculty and staff, alumni, and students, while Etta received a huge bouquet of flowers on behalf of the Faculty Wives Club.

"In 1910," the program tribute reads, "a 22-year-old graduate student at M.I.T. and eight other young men trudged with transit, level, and surveying rods in hand, from an old wooden frame building on Mason Street to the Frog Pond on Boston Common. There the first day class in surveying, under the auspices of Boston Y.M.C.A., was held. The youthful instructor received one dollar per hour for teaching this small group, which later

turned out to be the first class in civil engineering in what is now the College of Engineering at Northeastern University. How, from that meager start, an Indiana farm boy from a one-room cross roads school translated his own opportunity to 'earn while he learned' into the basic and dynamic philosophy of a great university has been described as 'one of the most astounding stories in the history of education.'

"But probably the least astounded person of all is Dr. Carl Stephens Ell. 'Give youth a chance' has been his militant motto in answer to all detractors of young people, or those educators, especially verbose since arrival of the Space Age, who would limit college education to the more gifted students. To Dr. Ell the growth of N.U., therefore, has simply been the justification of his own unshakable faith in the latent possibilities of all men. . . . Knowing of Dr. Ell's implicit faith in their own latent ability to make good, and aware that their president worked his way through both DePauw Academy and DePauw University, each in three years, thousands of youths have found the inspiration to forge their own careers—careers which embody service to their communities, their state, and their nation. . . . By helping to make its graduates 'most serviceable to others,' Northeastern, under Dr. Ell's leadership, has grown from a class of eight surveying students to a university of 18,000 day and evening scholars; and, literally from the cinders of what was once a barren circus ground, dump, and baseball field, the University of today has emerged, phoenix-like, from the ashes."

Ten days later at an N.U. home coming dinner before nearly 500 alumni, the Alumni Association announced a \$100,000 Carl Stephens Ell Scholarship Fund; and Herbert W. Gallagher, director of Student Activities, awarded the "Dean of New England College Presidents" a certificate for his "contribution to the Northeastern University intercollegiate athletic program, and his early-day coaching and playing experiences." He also received a Varsity "N" certificate in all sports for 1958-59 and a black knit coat-sweater with a red "N" woven into the fabric. We're all so proud of you, Carl!

Belatedly, but proudly, we announce that Irving W. (Bun) Wilson, XIV, Chairman of the board, Aluminum Company of America, received two honorary degrees last June. One was an honorary doctor of commercial science from Duquesne University, the other an honorary doctor of laws from Washington and Jefferson College. These, in addition to an honorary doctor of laws degree by the University of Pittsburgh in 1956, make us very proud of our illustrious classmate, now widely known as Chief Wilson!

Recently heard from a classmate, Fred Covill, II, retired, 138 College Avenue, Malone, N.Y. You may remember him as quite a tennis player in his M.I.T. days. "Used to know your Cornish, Maine, section pretty well," he wrote, "as my mother's folks came from nearby Hollis and Buxton, and I spent one summer on a West Buxton farm, bicycling to Sebago Lake, Old Orchard Beach, Limerick and so forth. That type of transportation,

along with horse and buggy, was the traveling method in them there days. I have never felt able to do much in support of M.I.T., but I am working on a religious contribution setup in which I am much interested now. I contribute some time to community planning, zoning, street layouts; and my M.I.T. contacts stand me in good stead, it seems to me, for I like to work out puzzles, difficult problems in detail."

Had a nice mid-October letter from O. W. Stewart, I, from Kingston, Mass., stating that "Hereabouts we find more to do than there is time to do it, between the small-scale fruit raising and various extracurricular responsibilities, the latter concerning chiefly the Episcopal Church diocesan and parish connections or state and Boston Y.M.C.A. boards. We have just finished a very successful season with our two acres of new varieties of cultivated blueberries. This ties in with my modest blueberry plant nursery project, which keeps growing [good pun?]."

"My experimental work over the past three years with Bemis Brothers Bag Company netting—now called Protecto-Net—as enclosures or coverings to prevent bird damage to fruit and vegetable crops, is showing promising results. This year I took on the New England distributorship for this netting and did an encouraging amount of business with that."

By now you doubtless have heard from Vice-president Howard Williams, XI, who has graciously agreed to be our chairman of the 50-year special gift fund in connection with the Alumni Fund. In the main news section of this section you can see that we continue to show up well in gifts to the continuing Fund; and if you haven't yet made your 1958-59 contribution, there is no time like the present.

At this mid-November writing our Wellsweep winterization program is practically completed, thanks to you generous classmates who, under President Don Stevens' grateful and unceasing devotion, have made all this possible for Sara and Dennie; we both are eternally grateful therefor. This sentiment, with three address changes, will bring these notes to a close. R. T. (Bob) Haslam, X, has given up his Short Hills, N.J., home and has 69 South Washington Drive, St. Armand's Key, Sarasota, Fla., as a home address, with his business address, 7 Hanover Square, New York 5, N.Y., for mail. For the winter season: Norman Duffett, X, 214 South Palmway, Lake Worth, Fla. And a new permanent mail address: Louis L. Wetmore, IV, 132 Beacon Street, Boston, Mass.—ORVILLE B. DENISON, *Secretary*, Wellsweep, P. O. Box 11, Cornish, Maine. JOHN A. HERLIHY, *Assistant Secretary*, 588 Riverside Avenue, Medford 55, Mass.

## 1912

The following is from the *Aero/Space Engineering* magazine, bringing you up-to-date on our classmate Jerry Hunsaker:

"Navy Confers Award on J. C. Hunsaker. Jerome C. Hunsaker, Professor Emeritus, M.I.T., has been presented with the Navy's highest civilian award, the Distinguished Public Service Award. A 1908 graduate of the Naval Academy,

first in his class, Dr. Hunsaker was honored for outstanding contributions . . . in the fields of scientific research and development."

The award was presented by Garrison Norton, Assistant Secretary of the Navy for Air, in the presence of Thomas S. Gates, Secretary of the Navy; Admiral A. A. Burke, Chief of Naval Operations; R. McPate, Marine Corps Commandant; and others. Dr. Hunsaker has received other awards, including the Navy Cross, the Royal Aeronautical Society Gold Medal, Guggenheim Medal, and the Presidential Medal of Merit.

The Boston Stein Club of M.I.T. meets monthly for lunch. Our Professor John D. Shore of Northeastern University is the secretary.

Mrs. Jerome Appelquest, whose husband passed away, writes giving us a brief account of his activities since retirement: "He retired from the New York Telephone Company in June, 1953. We purchased land and built a house in Peconic Bay out on Eastern Long Island. Designing and carpentry were hobbies, and much of his time was spent adding countless large and small refinements to the house. Photography, fishing, and clamming were favorite occupations; and he was happiest when he was either in the water or on it in his boat. He was active in the work of the Methodist Church of Cutchogue and enjoyed the fellowship in the Men's Club of the Village."

Bill Glidden is retiring June 30, 1959, from his position with the state of Virginia and is thinking of settling possibly in New Hampshire. He is a bit choosy as regards tax laws and is looking into the matter quite thoroughly. He has promised us a resumé of his various activities, which we hope to publish soon.

Your Secretary took advantage of Ralph Symonds' invitation to look over his oil paintings recently and was frankly overwhelmed with the breadth of Ralph's work. He does seascapes, landscapes, and still life with equal ability. One of his best pictures is a fall view of his son's home in Hamilton, Mass., complete with autumn coloring. It certainly has been an absorbing interest to Ralph, and anyone in the vicinity of Marblehead should certainly look him up. — FREDERICK J. SHEPARD, JR., *Secretary*, 31 Chestnut Street, Boston 8, Mass. C. BOLMER VAUGHAN, *Assistant Secretary*, 455 West 34th Street, New York 1, N.Y.

## 1913

Well! My lads and lassies, I surely let you down for the December issue of The Technology Review. It is rather a long story but still quite bright. About eight weeks ago, I was traveling to an open house exhibition to show some new houses when I was struck broadside by a very high-speed gal. My car was turned over and is now in the junk pile. I experienced all sorts of injuries in the medical nomenclature, including contusions, lacerations, abrasions, incisions, gashes, ruptures, strains, sprains, wrenches, and concussions, but no broken bones. After two months of partial and total disability, I am almost back to normal again. I can now work 12 instead of 18 hours a day.

It is with a heavy heart that we must be bearers of sad news. On October 6, 1958, our very dear friend Winnie Gustin, Lester's charming wife, departed from our midst. She had lived a very full and praiseworthy life. Besides being a most helpful wife to Gus, she was also a wonderful mother to her two sons Lester Jr. and James, as well as an example and guide to her seven grandchildren. The days were not long enough for our departed sister to give all the effort that she endeavored to dispense to her many activities of family, Church, Red Cross, Salvation Army, Winchester and Arlington Hospitals. After a long period of failing health, she has gone to her Maker. The whole Class extends to Lester and his sons and their families its deepest sympathy. "To the Class of M.I.T., 1913. Thank you for your kind remembrance of Mrs. Gustin. All of us appreciate your thoughtfulness at this difficult time. (Signed) Lester C. Gustin '13, Lester Jr., and Jim."

Delayed notes of our several Classmates: little do you '13 men realize the greatness of our F. C. Weiss, an outstanding, imaginative, and economic construction engineer of the state of Alabama and vice-president for engineering and construction of the Alabama Power Company. During the latter part of April of last year, the construction of a hydroelectric project, the Coosa and Tallapoosa Development, was begun. The start of this project was performed at the groundbreaking by the touching off of tons of dynamite for the construction of the Weiss Dam. This project will be consummated at the end of the next 10 years at a cost of \$120 million. A volume as large as The Review itself would be needed to describe the statistics and the honors bestowed on our own F. C. Weiss and the Alabama Power Co. From a tribute to F. C. by Mr. Walter Boulton, President, Alabama Power Co., we quote in part: "Not only has he built greatly and well, he has built economically. For Mr. Weiss is much more than a great builder — he is an engineer with imagination." We of 1913 who had the pleasure of meeting you at the 45th reunion, F. C., can only say, "Me too."

"I do not expect to be able to make it. Sorry to miss you all. Joe Cohen." William G. (Jack) Horsch sent regrets and greetings to all. Received a very interesting letter from George H. Clark, together with a sizable check (his first letter and check in 1958). It appears that since 1937 following a severe auto accident George is slowly but surely returning to good health again. He retired in 1956 after 30 years with the Formica Co., Cincinnati. Saw Formica's sales increase from approximately \$3,000,000 a year to \$42,000,000 in '56, when he retired as vice-president of engineering and development. George has been outstanding in the field of plastics. He served as president and director of the Society of the Plastics for eight years; set up Plastics Research at M.I.T.; was chairman of technical committee for lamination section of the National Electrical Manufacturers Association during war years and after; set up research project at Johns Hopkins School of Engineering for testing and test methods; completely revised industry and gov-

ernment specifications for plastics; built new plant for Formica starting in 1950, now covering 15 acres, one floor; licensed Formica trade-mark in England and built new plant there. George made two post-war trips to Europe. Formica, or Thomas D. LaRue of England, has plants licensed in Germany, France, Spain, and Italy; Formica is now sold in every civilized country on earth and some not civilized. "All told, a busy life with plenty of opportunity and responsibility. No complaints. . . . I cannot attend reunion but send my warmest regards to any who might inquire." It was a pleasure to hear from you, George. The Class is proud of you.

A short note came from our classmate Charlotte Sage, extending her regrets. We saw her at a distance on Alumni Day but couldn't catch up with her. She must have sat with the girls. We missed you, Charlotte. Gene N. Burrell sent his regrets, but we hope to see him in 1961, and for sure at the 50th in 1963. Max Waterman was as brief as usual: "Sorry — unable to make it this time (attended in 1956)."

Harry S. Wright, at the ripe old age of 69, has deserted old New England for the life of a gypsy and with his wife is now a confirmed nomad. They had been visiting his son and family in Venice, Calif., but were planning shortly to roam among the Rockies. Good luck, Harry, you old tax dodger. Received a very much appreciated letter from Peter Lieber's widow with the news that Pete's son, Albert, is studying for his Ph.D. in Nuclear Physics at the University of Washington. Marion Hart, our aviatrix, expected to leave this area, therefore would practice up and favor us with a speech in '63. Fred Murdock wrote that pleurisy had him down and he was on a milk toast diet. Hope by now, Fred, that you are living on steak. Dutch Franzheim is more or less in the "ailment period" of life, so cannot enjoy his usual number of martinis. Tough, Dutch; will see you in 1961, and we are counting on you for the 50th in 1963. Howard Currier laments that due to illness in his immediate family and the distance to Boston he could not join us at Oyster Harbors. Al Townsend wrote that between his official duties at Lowell Institute and traveling to the American Society of Electrical Engineers annual meeting as the representative of the Institute he would be forced to save his new and clean stories until 1961. Lawrence Kocher could not make the 45th but will be on hand for the 50-year jamboree. Arthur Carpenter was too busy and had other plans on his retired agenda to come East. Start making plans for 1961 and also the 50th in 1963, Arthur. Ralph Thomas, after reading about the 45th, loosened up with a check. Thanks, Ralph. He used to meet Clarence Berry at the Engineers Club in Baltimore, but as both are retirees they haven't time for that. He also hears from Bob Weeks once in a while.

Well, the mystery has been solved. The Cogans preferred a year's trip to Europe and the Mediterranean shores to Oyster Harbors. What has the Old Country got that we haven't? The Cogans were certainly missed, but they are setting their sights for 1963. Why not 1961? Arlyle

and Paul wrote that on their trip they enjoyed the "calm route" where Paul was nearly thrown out of bed twice; he is looking forward to the trip back (north-ern), when the ship turns over twice. Paul, on the advice of his traveling companion (who?) decided to see the World while they had a chance. Their itinerary provided for stops at Marseilles; Barcelona; Genoa; Latakia; Damascus; Beirut; and Egypt, which included Alexandria, Cairo, and Port Said. On landing at Marseilles they went by train to Zurich, Switzerland, then to Stuttgart, Germany, where he picked up his Mercedes Benz. Then on to Paris, where they saw the chestnut trees in bloom and just missed the other "blooming thing." Then they journeyed to Holland for the tulips: "We saw them." Paul was allowed nine days in Brussels to see the Fair: "Arlyle detests Fairs." When last heard from, the Cogans were in Rodwig, Denmark, for a month's rest, then on to Berlin, Munich, Frankfurt, Vienna, Switzerland, Spain, Portugal, and on and on. We are very glad you and your traveling companion are enjoying your trip and your retirement. Let's hear more from you when you return to the Land of Plenty.

We are again bearers of bad or sad news. From the Alumni Office comes word that two of our classmates have journeyed to the land of no return: Fred L. Rand, Atlanta, May 7, 1957; and William E. Herron, Lakeland, Fla., September 25, 1958. Our Scribe had only the above bare facts; if any of you can furnish more detailed and fuller information, we shall gladly include it in our next notes.

Of course, we hear rather regularly from two of our best correspondents, Larry Hart and Jack Farwell (or should we thank Jean?). The Junior Achievement movement certainly is a worth-while project, and we of 1913 fully believe that the organization is indeed extremely fortunate in having such a leader as Larry. Yes! Yes! the newlyweds are home. We have not seen them yet but have talked by phone several times. Sad but true, the "Female specie is more deadly than the Male." The Mattson family are disposing of their Newton property and leaving shortly for Denver. Them we shall miss. No more shall we play cupid. Well, my hearties, that is enough for now. We still have a few old chestnuts in the barrel, but start the new year with a resolution to write to your Secretary and tell him of most everything you did Christmas. Was Santa good to you? Happy new year. Also, dues are now due. — GEORGE PHILIP CAPEN, *Secretary and Treasurer*, 60 Everett Street, Canton, Mass.

## 1914

On the ever growing list to add emeritus to their title is Professor Earle Turner, Dean of Engineering of the University of New Brunswick. Just before his retirement Turner, a former vice-president of the Engineering Institute of Canada, had the honor of receiving a certificate of honorary membership in that society, which is the highest award the Institute can confer. Turner writes that to him 1914 seems as only last week, and he is

already planning to join us at the Institute when we celebrate our 50th.

A recent issue of the *Minneapolis Star* devotes a special item to our classmate Dale R. McEnary. Mac is one of the leading architects of Minnesota with a long list of prominent public buildings to his credit. He has also served for many years as a member of the state board of registration for architects, engineers, and land surveying. He is married and has four children, one son of whom is associated with him in his architectural firm.

Two of our classmates recently died on the same day, October 19. One was Miles Standish Maxim of Course II. Maxim prepared for the Institute at the Somerville, Mass., High School. He had spent practically his entire graduate life with the Monsanto Chemical Co. and its predecessor, the Merrimac Chemical Co. During World War I he was in charge of his company's design of various heavy chemical plants for explosive bases. During his life with his company he had served with the plants at Everett and North Woburn, Mass., and Dayton, Ohio. Miles was married on May 18, 1942, to Miss Evalyn Martin, who survives him.

Our classmate who died on the same day was Dr. Ernest Dana Wilson, Head of the Department of Chemistry of the Worcester Polytechnic Institute. Wilson joined us for his senior year, then continued at the Institute as a member of the instructing staff. Later he was employed for a number of years in New York City before going to Worcester. He is survived by a wife and one son and daughter.

By now '14 classmates should have received the first notice of our 45th reunion at the Publick House at Sturbridge, Mass., to be held June 12 to 14. If anyone has not received such a notice, just drop a note to your Secretary and all details will be sent to you promptly. — C. P. FISKE, *President*, Cold Spring Farm, Bath, Maine. H. B. RICHMOND, *Secretary*, 100 Memorial Drive, Cambridge 42, Mass. H. A. AFFEL, *Assistant Secretary*, R. F. D. 2, Oakland, Maine.

## 1916

We announced last month that the 1958 Silver Stein Award was to be presented to Steve Brophy on November 17 — at an impressive affair in the Grand Ballroom of the Biltmore Hotel. We're of course proud of Steve because this is an award presented annually to a "past or present member of the M.I.T. Club of New York who has made an outstanding contribution to the Club, to the Institute, or both, or who by his consistent activities over a long period has furthered the interest and welfare of the Club, the Institute, or both." Some of the previous recipients of the Club's Silver Stein Award have included the late Lester Gardner'98; Gerard Swope'95; Alfred P. Sloan, Jr., '95; and C. George Dandrow '22.

A clipping from the *Birmingham (Ala.) Post-Herald* dated last May carries the head, "New Board Chairman — Pratt To Direct Continental Gin" and shows a good looking picture of "Chairman — Merrill E. Pratt." Not so long ago, just last spring in fact, we reported hav-

ing word from Merrill who, we said, "continues as president of Continental Gin." Here are some further high lights about Merrill that appear in the news item: "Directors of Continental Gin Co. yesterday [May 15] named Merrill E. Pratt chairman of the board of directors. . . . Mr. Pratt has been president of Continental Gin since 1938. He has served in various capacities and departments of the company from 1916. The new chairman was made sales engineer in 1932 and in 1934 became vice-president in charge of engineering. A native of Prattville, he is a graduate of the University of Alabama and the Massachusetts Institute of Technology. Mr. Pratt is a veteran of World War I and a great-greatnephew of Daniel Pratt, who founded the Daniel Pratt Gin Co., one of Continental's pioneer predecessors." Delayed but hearty congratulations to you, Merrill!

Our column sometimes has practical value. Word from Bob Wilson in Italy in October read something like this: "Thanks to you and Francis Stern, whose account of his European trip you published last March, Mrs. Wilson and I came to Portofino for our last stop in Italy before sailing back on the *Constitution*. Mrs. Wilson cut out that page of the 1916 column and brought it along with us. Please tell Francis we shared his enthusiasm for Florence, Rome, the hill towns, and Portofino. Have taken advantage of retirement to make a 10-week trip, including two weeks as a delegate to the Atoms for Peace Conference in Geneva, which was very interesting."

Word from Emory Kemp indicates continued progress since his heart attack last July. He says he can do a little work but within reason — no overhead work or lifting heavy weights. Says he sold their large nine-room house in Wellfleet and is trying to get an apartment made out of their bowling alley building. He has been kept busy supervising the contractor's men, and says he will be getting around to digging up prospects for the 43d reunion soon. He tells Jim Evans that he is really enjoying his retirement and finds plenty to do doing nothing.

Speaking of Emory Kemp reminds us that we have a further bundle of philosophy and prediction to offer this month — a portion of the remainder of Dave Patten's letter to Emory in the Pocasset Hospital last July. Emory feels that others should have the opportunity to hear these words of wisdom: "As I see the signposts, we're off to another great expansion era: over 200,000,000 U.S. citizens by 1970, a gross national product of some \$600,000,000,000. And I suppose we must accept today's dollar to be worth about 85 cents by then, but the producers will be getting higher wages; for the trend has always been that way, in general, and now there are built-in guarantees that forecast such happenings. The formation of new households will go on at an accelerated pace, as the Kemps should know. There will be the biggest housing boom ever with the stimulation of business for real estate agents, mortgage and loan companies, producers of building materials of new and radical design, and so on.

"In our neck of the woods the growth will not be as great as in other parts of

the U.S. For example, if the average rate for the nation is 27 per cent, then California is expected to expand by some 57 per cent by 1970 while Massachusetts will average about 15 per cent, Maine 1 per cent, Arizona 79 per cent, Texas 34 per cent, Florida 65 per cent; and some of the poorer states will slip backwards. For us oldsters, I suppose moving is not in the cards; and yet that seems to be just what many will do. The motto of the Marines, keep on the move. Will they be moving out of Lebanon or further in? It seems to me that in the long run there is enough for all nations if they will but get together in world development, and never enough if they fight and squabble over the spectacular and vital prizes such as Middle East oil, canals, trade routes, the Arctic regions, and Africa, to say nothing of the minds of men in the underprivileged areas. The great head start of the U.S. in the economic field is challenged, so we flood the world with dollars as Lenin — no it was Trotsky — forecast would be the case some 30 years ago.

"As for the Arab world, Moslems in faith, I doubt if they align themselves with unbelieving Russia except for pressure reasons or to gain some edge in their drive for freedom — freedom from the old order. A German researcher and correspondent by the name of F. W. Fermau has written a book entitled *Moslems on the March* in which he gives a vivid picture of the world of Islam. He feels that the emancipation movement is too powerful to be controlled from without, that Communism will not easily take root there, that the Moslems act as a buffer between the East and West. All will agree, regardless, that the West must have friendly relations with all new Moslem nations struggling for more of the better things of life. The fast pace of resurgent nationalism, with the casting out of outside controls, has already produced thirteen independent states, half of them in the last ten years. Fifty years ago, Lord Curzon predicted that the world's game of chess would be decided in Turkestan, Persia, and Arabia — we appear to be in the era of decision."

Barney Gordon takes a good picture. We saw one recently in a clipping from the *Manchester (N.H.) Union Leader* in an article under the caption: "Local Manufacturer to Give Viewpoint on 'Our World.'" The article starts: "The Adath Yeshurun Chapter of the New England Federation of Temple Youth will open its yearly program at a supper meeting Sunday [October 12] at 6:00 P.M. in the Temple vestry. The speaker will be Barnett D. Gordon, who will inaugurate a new series of discussions on the topic 'Our World.' Mr. Gordon will present the businessman's point of view." Barney is president of MKM Knitting Mills and Darlene Knitwear, Inc. Probably most of you know that some time ago he received an honorary doctor of science degree at Lowell Textile Institute.

Hovey Freeman answered, as he always does, a frantic call for a paragraph or two in the early days of November. He reaches retirement age next July, but whether he will retire on his 65th birthday he has not yet determined. Says: "There are some things I want to get done

before retirement, and I therefore am guessing that I will stay on for a year or two or maybe longer. Everyone in our company has to get out at 70. However, after 65 they stay on at the option of the directors. We had a very happy and a very busy summer. I bought a 33-foot diesel-powered Sport Fisherman and had a lot of fun with it, not only at the time of the Bermuda race but at the time of the International Cup races. My dock at Popquash Point, Bristol, was a busy place before the Bermuda race, as two of my sons-in-law as well as my youngest son sailed in it and also my brother-in-law from Cleveland had his boat in the race. Of our 18 grandchildren we had 17 with us at various times filling our Big House and our Guest House, so a grand but hectic time was had by all." Hovey says he's feeling pretty much okay most of the time — has lost a lot of weight and is still trying hard.

In the last issue we regretfully reported the passing of Warren Ames on September 12 but at that time had only limited information. Now we have substantial information that will be of interest. Warren was born in Waltham and attended Waltham public schools before coming to Tech. As reported in the *Waltham News-Tribune*, he was "a member and director of the Waltham Chamber of Commerce; a director of the Waltham Boys' Club; a member of Monitor Lodge, A.F. and A.M., of Waltham; past master of Waltham Lodge of Masons; and a member of Aleppo Temple of Boston. As president of one of the best known tool engineering companies in New England [the B. C. Ames Co. of Waltham], Mr. Ames was a registered Massachusetts tool engineer; a past chairman of the Boston Chapter, American Society of Tool Engineers; and a member of the American Society of Testing Engineers. He was also a member of the Brae Burn Country Club, Newton; the First Unitarian Church, Waltham; and had been active in various civic organizations." He leaves two sons, two daughters, a brother, and 12 grandchildren.

We also reported but briefly on the death of William G. Brown on September 26th in Wiesbaden, Germany, and since then have accumulated much information regarding his notable career. Bill was a retired Air Force colonel, and from 1953 to November, 1955, when he retired, was director of research at Wright-Patterson Air Force Research Center, Dayton. In July, 1958, he accepted a position as director of the training center for experimental aerodynamics under the North Atlantic Treaty Organization in Brussels. After receiving his degree in aeronautical engineering, reports the *Manchester Union Leader*, "he became a lieutenant in the Navy and was head of the instrument section of the Bureau of Aeronautics, Naval Aviation Branch, Washington, D.C., until 1920. From 1920 to 1923 he was a physicist for the National Advisory Committee for Aeronautics and at Langley Field, Va. From 1923 until 1930, he was a professor of aeronautical engineering at M.I.T., except for one year of sabbatical leave with a Guggenheim fund for the promotion of aeronautics at Mitchell Field, N.Y. From

1930 to 1933 he was a consultant for the American Loth Co., Dayton, Ohio, and in 1933 he went to Louisiana State University, where he helped to found the Aeronautical Engineering Department and where he remained as professor until 1940. He was then called to active duty in the Air Force and was stationed in Washington at the Office of Scientific Research and Development. In 1952 he became assistant to General J. F. Phillips at the Cambridge, Mass., Air Force Center." He leaves his wife, Ivy (Quick) Brown of Rye Beach, N.H.; a son; two daughters; several grandchildren; and a sister and two brothers.

We regret to report the death of Ping Yok Loo from a heart attack near his office on West 31st Street in New York on October 13. Ping, who had been methods engineer with Sears Roebuck since 1953, was born in Canton, China, and came to the U.S. as a child. As reported in the *New York Times*: "He was assistant engineer at the Winchester Repeating Arms Co. from 1916 to 1918; engineer with the Allied Machinery Co. of America for the next five years; manager of the American Machinery Co., Tientsin, China, from 1923 to 1927; and president of the China Engineering Construction Co., Shanghai, from 1927 to 1944. In 1946, Mr. Loo returned to the U.S. and was an organizer of Wha Ning and Walsh Construction Co., with headquarters in Shanghai, founded to undertake reconstruction projects in China. The concern had to abandon activities in 1949 after the Communists had assumed power. Mr. Loo was a member of the Chinese Society of Mechanical Engineers, the American Society of Mechanical Engineers, the Society of Heating and Ventilating Engineers, the Rotary Club, and the Chinese Red Cross." He is survived by his widow, Mrs. Alice Chang Loo; a son; two daughters; and a brother, Ping Tien Loo of Hong Kong. We also regret to report the death of Tom Holden early in November. His was the big voice of F. W. Dodge Corp., quoted everywhere for authoritative statistics and predictions on building and construction. More about his impressive career in next month's column.

The November 1916 luncheon in the M.I.T. Club of New York headquarters at the Biltmore counted the following: Joe Barker, Art Caldwell, Jim Evans, Stew Rowlett, and Len Stone. Remember, if you are in or around New York early in any month, you will be most welcome at the monthly 1916 luncheon, held in the Biltmore, quite inexpensively, on the Thursday of the first week that contains a Monday. With this, the column comes to a conclusion for this month. Begin now to think about not missing the 43d reunion in June. Please feel guilty if you haven't been quoted in the column during the last six months. This is like any production job — if you don't have input you can't get output, even though you have the customers. Write a little but write often to: HAROLD F. DODGE, *Secretary*, 96 Briarcliff Road, Mountain Lakes, N. J.

1917

Christmas of 1958 is a matter of history, and the new year of 1959 will have

completed about one twenty-fourth of its journey by the time these notes reach you. We hope that the coming months are full of good luck, good health, and lots of fun for all 1917 classmates and their families. Will those who were born in the year 1894 and are looking forward to retirement let us know how they anticipate spending their leisure time? Any classmates retiring early, or late, may also wish to inform their friends of their plans.

The death of another classmate was recorded on October 23. J. Frank Maguire died on that date from a heart attack. Two years ago he had his first attack, but, in the meantime, had made good progress toward recovery. Besides his wife Louise, he leaves a son. Frank was instrumental in organizing the M.I.T. Club of Northern New Jersey, and was its first president. After a period at the Institute on the instructing staff and a stretch in the Army, Frank was employed by Bird and Son at East Walpole, Mass. He spent 10 years with Bird and Son as chief chemist of the roofing and floor covering divisions and then joined the research staff of the Hood Rubber Co. at Watertown, Mass. After a short stay at Watertown, he spent about seven years with Congoleum Nairn Co., as assistant director of research, and later about nine years with Reichold Chemicals, Inc., in various technical capacities. During World War I he served on the advisory panel of the National Research Council Committee on Quartermaster problems, and also collaborated with Chemical Warfare Service on various projects. Frank will be remembered by those who knew him for his unflinching good nature, wit, and supply of jokes which he got as much fun out of telling as his hearers got out of listening to. We shall miss his presence at future reunions.

Jack Wood continues in the sailing news. The Boston Stein Club, in announcing their October meeting, stated that they were hoisting anchor and setting sail for the 1958-59 season by having Jack give a talk on "Science and Sailing." The notice goes on to say that under Jack's guidance the sailors at Tech were National, Eastern, New England, and Greater Boston sailing champions in 1958. It also states that observing the America's Cup competition at Newport and knowing both the designer (an M.I.T. man) and the sailing team of the winning boat, their speaker can give them a first hand accounting of this famous yachting event. We wish we could have been present to hear the talk and see the pictures.

While we are concentrating on sailing news, it is of interest to note that our friend Walt Beadle, in order to make good use of his early retirement, has seriously studied navigation, seamanship, and all the other details of boating. He and Mrs. Beadle are both enthusiastic yachtsmen, and took a cruise last summer along the New England Coast in their yacht. Ray Stevens and Walt, with their wives, had a ringside seat at the International Boat Races last year. Many of you who remember good old Professor Spofford '93 — who, by the way, is Mrs. Beadle's father — will be interested to know that he was given a medal at a memorial dinner last fall at the Franklin Institute in Philadelphia.

The monthly 1917 luncheons at the M.I.T. Club of New York, Hotel Biltmore, continue to bring new classmates. Recently Ben Levey, President of Benell Fabrics Company, Inc., converters of New York City, and Bob Scannell, architect of Bronxville, N.Y., joined the group of regulars. All kinds of subjects are thrown on the table for discussion, but Ben Levey had a new one at a recent luncheon. Ben thinks that if New York City millionaires can raise \$75,000,000 for a Lincoln Square musical and cultural center which will be available, by his estimate, to some two hundred thousand people, some concerted action ought to be taken to provide additional recreational and emotional outlets for the benefit of the millions in between the upper and lower crusts. Ben thinks that M.I.T. men in New York could use some of their engineering and administrative knowledge and skill for the benefit of a greater number of persons. Ben is ready to back up his idea with a pledge. Anyone who is like minded should contact Ben.

Those who knew Clarence Cochrane — who, by the way, was a top flight golfer — will be interested to know that at the Massachusetts Golf Association open tournament at Hyannis, last fall, a Clarence Cochrane permanent cup was given and awarded for the first time.

Dad Wenzell continues to be active for the International Bank for Reconstruction and Development in Washington, D.C. He took off for Rome about the end of September and spent about a month on business for the bank. The job that he, Tom Meloy, and Dutch du Pont did for the M.I.T. conference in Washington, D.C., last spring has brought them invitations to be present at a similar conference held in Albuquerque in November, 1958.

As of December 15 last, your Secretary is transferring his activities to Farmington, Conn., but with a post office address of West Hartford, as you will note below.

Today's Best Smiles contribute the following: "The pretty young teacher was explaining the difference between abstract and concrete. 'Concrete means something you can see,' she told the children and 'abstract something you can't. Now who will give me an illustration?' Little Tommy in the first row was the first to hold up his hand. 'My pants are concrete,' he said. 'Yours are abstract.'"

The head nurse of the hospital came into the room and found the student nurse holding both wrists of the male patient. "You don't have to hold both wrists to check the pulse," upbraided the head nurse. "I'm not holding both his wrists to check his pulse," the pert little student replied. "I'm holding them to check his impulses." — W. I. McNEILL, *Secretary*, 107 Wood Pond Road, West Hartford 7, Conn. STANLEY C. DUNNING, *Assistant Secretary*, 21 Washington Avenue, Cambridge 40, Mass.

## 1918

January is a time of new beginnings, as well as of old carrying on without significant transition. But it happens this way all the time. For example, from a wide variety of sources, including Tom Bros-

nahan, comes news that our Bill Foster headed the delegation sent to Geneva for the talks with the Russians, beginning in October, on what kind of inspection system can be devised to keep a national leader who wants a "surprise attack" from promoting such an attack. A second question to be examined in an age when there is still a good deal of planned wickedness in the world — planned at high political levels — is: suppose some national leader intends to attack another country by surprise. How do you keep him from suddenly jailing or killing all foreign inspectors inside his borders, and then having the inspection stations under his control send out camouflage assurances of safety to the nation he plans to attack? Formerly deputy secretary of defense, Bill knows so many of our top military secrets he was chosen to brief Vice-president Nixon on the subject. Even then he certainly did not tell all, for Bill has the reputation of being "unleakable." As Economic Co-operation Administrator in 1950, Bill directed the spending of billions of dollars to strengthen non-Communist nations in Europe and the Far East. Later, as deputy secretary of defense (1951-53), he successfully applied his early experience in small business to the nation's biggest business: defense procurement. He was cochairman of the Gaither Group, which prepared the secret report comparing the military strength of the United States and that of the Soviet Union. He submitted that report to the National Security Council in 1957. Although the contents were never made public, it is known that the committee was concerned lest we weaken our defenses.

Tom Brosnahan also sent me seven typewritten pages about his trip from New York to the Hawaiian Islands and return. The itinerary included some excellent views of the ground from the wild, blue yonder: palm trees and smog in Los Angeles; Disneyland, burning with the creative imagination of its creator; a huge restaurant hard by which can serve 1,750 patrons at once, and did serve 1,650,000 dinners in 1957; a lesson in hula dancing aboard the *Leilani* or Heavenly Flower as they cruised at 19 knots (or about 22 miles per hour) toward Oahu and Diamond Head; a musical welcome from four beautiful maidens in grass skirts. This welcome became particular as well as general, for as the ship docked the four ran up the gang plank to throw a lei or orchids around the neck of each passenger. On the island of Hilo, Tom saw the Rainbow Falls where a river pours over a volcanic ledge, and stood at the crater of the Kilauea volcano, which erupts every few years. Back in San Francisco, 3,250 horses — outdoing those fiery steeds assigned to the chariot which traditionally carried Elijah to heaven some 2,854 years ago — took Tom back to New York in a modern air chariot weighing 60 tons and using 5,000 gallons of gasoline to get them up 21,000 feet and across 3,000 miles. In 15 days he traveled an average of 655 miles every day with ample opportunity to relax and enjoy it.

Julian M. Avery of Greenwich, Conn., who invented the method of high pressure operation of blast furnaces for the production of pig iron, received the Francis J.

Clamer Medal from The Franklin Institute on October 15, at formal Institute ceremonies. The high pressure process, developed commercially by Arthur D. Little, Inc., of Cambridge, Mass., was a valuable contribution to the war production efforts of the United States during World War II. The process was given its first large-scale test by Republic Steel Corp. in 1943 under the sponsorship of the War Metallurgy Committee, and is now in wide commercial use in the United States and Europe. Several years ago, the U.S.S.R. awarded the Stalin medal to three Russian engineers for "inventing" the process. Under favorable conditions, the process has increased the tons-per-day production of pig iron by as much as 20 per cent, decreased the coke rate by as much as 10 per cent, and also decreased the amount of flue dust by about 50 per cent. Savings thus effected, under some conditions, have been over a dollar per ton. The economic importance of the process is apparent when it is considered that the United States alone has a pig iron capacity of more than 60 million tons annually. Julie's medal citation reads: "In consideration of his discovery and application of the principles of high top-pressure operation of blast furnaces, which have very materially increased their production and contributed to their smoother and more economical operation." The Clamer Medal, founded in 1943, is awarded by Philadelphia's 134-year-old scientific, educational organization at least once every three years for meritorious invention, discovery, or research achievement in the field of metallurgy. He holds many U.S. and foreign patents and has written several technical papers related to chemical and metallurgical engineering. In 1956, he contributed \$50,000 from the royalties on his blast furnace process to M.I.T. to establish a scholarship fund in the Department of Metallurgy. Currently Julie is technical advisor to the Ethyl Corporation and has certainly won his "T" in life as well as on the track during college days.

A note from Yale Evelev says: "Mrs. Evelev and I are embarking on a three months' cruise that will take us to New Zealand, Australia, Fiji Islands, with a month's rest at Hawaii. We sail on the *Mariposa* — Matson Line from Los Angeles December 14, 1958. We expect to be back by late March or April." Another letter from Colonel Sam Rubin says: "Your letter brought back wonderful memories of the good old days on Boylston Street and the Brunswick Hotel. A few years ago when I resided in Beverly Hills, Leo Reisman played at the Beverly Hills Hotel; and since I lived at the Hotel, he and I had a great many sessions together. We refought many, many battles, and it was fun. When I retired from the Army in 1945, I wanted to keep busy; so I decided to teach at the University of Southern California. I stayed at U.S.C. for 10 years as a professor and head of the Department of Transportation. However, after 10 years of plugging away, I resigned my teaching chores and moved north to San Francisco, and here I am — lock, stock, and barrel. In 1954 or thereabouts Max Seltzer visited me in Beverly Hills. As you say, Max is a gentleman and

a good friend. Like yourself, I too am very fond of him. To keep busy here, I am a member of the Public Library Commission of the state and am active in San Francisco civic affairs. Also, I am in the midst of writing some transportation texts. I saw Gretchen Palmer when she stopped over on her Hawaiian trip. We had a wonderful time recalling what the sentimentalists always refer to as 'the good old days.' Hope you are in good shape after your accident." (I am.) Sam's present address is 1201 Greenwich Street, San Francisco 9, Calif.

News of Lieutenant Colonel John H. Earl's death reached us in October via the Review Office, but without details including the date of death. Earl's last address was San Antonio, Texas. These notes were carpentered on Veteran's Day, but let me be the first to say: "Best wishes for a happy new year." — F. ALEXANDER MAGOUN, *Secretary*, Jaffrey Center, N.H.

## 1919

Hope that you all had a splendid holiday season, and that the new year will bring you health, prosperity, and happiness.

We see in the *Hartford* (Conn.) *Courant* that Louis J. Grayson was recently elected treasurer of the National Association of Life Underwriters at Dallas, Texas. Louis is a representative of the Travelers Insurance Company and is a member of the exclusive Million Dollar Round Table of N.A.L.U. In 1956 he was given the Wilner Memorial Award for outstanding service to the cause of life insurance.

Louis is also metropolitan area chairman in the Washington, D.C., area for our Class of 1919 40th reunion gift drive. Which reminds us, if you haven't given your pledge yet, do get to it at once, and make it as generous as you can. We owe a lot to M.I.T.; let's show our appreciation.

Charlie Chayne came up for honors again. At the University of Michigan's 114th commencement last June he received a doctor of engineering degree. His relationship with the state of Michigan began back in 1930, when he started with the Buick Motor Division of General Motors at Flint; and he has held his present position as vice-president in charge of the engineering staff at G.M. in Detroit since 1951. Chayne was cited for "his earnest desire to give freely of time and thought for the encouragement of a rising generation of engineers."

We note with sorrow an item in the *Lowell* (Mass.) *Sun* stating that Malcolm R. McKinley passed away on October 9 at Tampa, Fla., where he had been a resident for more than 30 years. Our sympathy goes out to his wife, daughter, and two sons. At the time of his death he was vice-president in charge of operations for the Tampa Electric Company, and was active in Tampa's civic affairs and in the work of the Kiwanis Club and the Tampa Chamber of Commerce.

Will Langille, as chairman for the 40th reunion, is busily at work; he asks that I remind you all to be making your plans well in advance so that you can be sure to attend the reunion. We want it to be the

biggest and best we ever had. I hope to see you there.

AND SEND IN SOME NEWS! — E. R. SMOLEY, *Secretary*, Vice-president, The Lummus Company, 385 Madison Avenue, New York 17, N.Y.

## 1920

Due to a comedy of errors, this news of our distinguished coed, Flossie Fogler Buckland, is somewhat late. It seems Flossie was responding to a letter from Al Burke on Alumni Fund activities but, meanwhile, fell down and broke her arm, getting it out of a sling in time to give a paper on "How to Read Heat Transfer in Russian" at the joint American Society of Mechanical Engineers — American Institute of Chemical Engineers Heat Transfer Conference in Chicago last August. Flossie's explanation, which she says we will recognize as being of the right vintage, was that she broke her arm patting herself on the back. At any rate, she was delayed some weeks in attending to Al's correspondence; and then when she sent me a copy of her letter to Al containing this news, I went and mislaid it myself. So here it is at last, several months late. Flossie enclosed a copy of her paper, including a Russian vocabulary for heat transfer literature. Space does not permit us to reproduce this, even though it would be interesting evidence to all of you that Flossie is still every much on the ball.

To describe the "better dream house," *Life* magazine chose M.I.T. Dean of Humanities, John E. Burchard, Class of '23 to formulate their dream. University of Michigan recruited C. Richard Soderberg, Class of 1920 and M.I.T. Dean of Engineering, as one of a panel of top educators.

Henry Nash of Warwick, R.I., who got his advance metallurgy degree in 1920, has joined the faculty of the Cornwall Academy in Great Barrington, Mass. He will teach physics, chemistry, college algebra, and calculus. John Barker has been appointed director of the Maine Medical Center in Portland, Maine. John has had an interesting career. He was a marine pilot training officer in World War I and returned to his native city of Portland, Maine, to represent the Improved Risk Mutual Insurance Company. In World War II he was with the War Production Board; and after the war, he was appointed plant engineer at the Maine General Hospital, later becoming assistant director of the hospital. Active in civic affairs, he is a past treasurer of the Campfire Girls of Maine, past president of the Maine Heart Association, director of the Kiwanis Club and of the Cumberland County Tuberculosis and Health Association. He is married and has two children.

Ken Clark of Sherman, Conn., and a vice-president of the Johns-Manville Sales Corporation in New York City, has been appointed to a newly established sales position with the company's Building Products Division. Fred Brooks recently presented a paper at the meeting of the American Metallurgical Society in New Haven on "The Use of Day and Night Temperatures as a Plant-Climate Indi-

cator." Francis Sears is the author of a book entitled, *Mechanics, Wave Motion, and Heat* (seems as though a lot of our classmates have gotten mixed up with this heat business). Larry Hitchcock has formed the Lauren B. Hitchcock Associates, chemical engineers, with offices in the Lincoln Building, New York City, to conduct industrial research and development counseling, commercial chemical development, and technical and economic investigations. The eminent Dr. Hitchcock was formerly vice-president of Quaker Oats Chemical Corp., president of National Dairy Research Laboratories, and president of the Air Pollution Foundation.

Morris Lipp was the subject of a feature article in the *Miami News* recently. The article includes a big picture of Morris, complete with big cigar and big horn-rimmed glasses, trying, no doubt, to look like an engineer but actually looking like his beaming and friendly self. Caption of the picture describes him as "Engineer and lawyer rolled up into a city manager." Morris is city manager of Miami Beach and, according to the newspaper, most of its residents simply do not think that their government can be improved upon. Morris hasn't lost his sense of humor. He recently presented the city council with a plan for a sign in the park near the ocean, featuring the current temperature at the beach. He told them it was expected to cost \$5,000, and when asked why it was so expensive, he explained it would have to have an air conditioner unit for the summer and a boiler for winter. The four million dollar exhibition hall which was dedicated in October was built faster and cheaper than would ordinarily have been expected because under Morris' direction the city was able to act as its own prime contractor. Morris has worked for the city of Miami Beach ever since 1926. His first job was to repair the damage to the shore line by the hurricane of that year, and he designed the system that conserves the existing soil and builds up more. He took a night course in law and was admitted to the bar in 1932. During the war he served with the Army Engineers, building air fields and Army camps in this country, and then was transferred to military government and served on the staff of General MacArthur in Tokyo, obtaining the rank of major. He was recently married and he and his wife Helen live at 859 47th Street, Miami Beach.

Frank Hunt has left Oak Park, Ill., and is sunning himself at Ft. Lauderdale, address 721 Northeast 16th Terrace. Ray Reese may be located at 300 Sandusky Street, Toledo, Ohio. Andrew Johnson is now hanging out at the same office building as our president, Norris Abbott: Turks Head Building, Providence. Dolly Gray is living in Wilton, Conn., address 133 West Meadow Road. Phil Byrne is now in Westfield, N.J., address 28 Canterbury Lane. Word has been received of the death of Arthur F. Williams of Downers Grove, Ill. — HAROLD BUGBEE, Secretary, 7 Dartmouth Street, Winchester, Mass.

## 1921

Happy new year!  
Here's to health and happiness for you and yours throughout the year, from

M.I.T. and all your Class officers and activity committeemen. The holiday season is a time for family celebration, and this goes for our big Class family as well. You have recently had a fine letter from our top-notch Class Agent, Ed Farrand, who has expressed it so well for everyone in referring to our "finest hour." Ed and Lark Randall are carrying on a most important function for the Amity Fund and our big 40th reunion, which we will celebrate in conjunction with the centennial observance of M.I.T. in 1961. Get out Ed's letter if you have delayed acting on it and follow through now. With your generosity and love for the Institute, the influence of our friendly 1921 fireside will, as Ed so aptly says it, reach beyond our Class group to inspire other Alumni and even beyond the ties of M.I.T. to give prospective donors assurance and confidence to warrant their wholehearted support.

A most welcome letter from Ed Farrand explains that his December Amity Fund letter to the Class replaces the one he formerly sent out about the first of the year. We know how eagerly Ed and Lark are looking forward to your generous response towards reaching the goal which has been set for our gift to Technology on that big anniversary for both the Institute and the Class of 1921. Let's show 'em we can do it!

Thanks to both George Chutter and Ray St. Laurent for writing so promptly with news of the October Alumni Council meeting in Cambridge. The Class was represented by Ray, who is a member of the executive committee of the Council; by Class Representative Chick Kurth; by Mel Jenney, our 40th reunion chairman; by Mich Bawden, who represents the Cleveland Alumni club; by Chutt, who represents the Northern New Jersey club; and by Ace Rood, representing the Indiana club. Other '21 men on the Council are Josh Crosby, who represents the Maine Alumni club, and Frank Kittredge, who represents the Monterrey, Mexico, club. Chutt adds that the evening we spent with the Dave Woodburys was such an outstanding one and says he has had a great deal of pleasure from reading Dave's latest book on satellites, entitled *Around the World in 90 Minutes*. Ray says the 1921 contingent had a good opportunity to chat about personal and Class affairs at the October meeting.

Arnold C. Rood has announced the removal of his office for the practice of patent and trade-mark law to 21 Montfort Road, Newton Highlands 61, Mass. Almost in the same mail came a note from A. Abba Orlinger, patent and trade-mark lawyer, who shuttles between his Philadelphia office at 6655 McCallum Street and his New York office at 11 West 42d Street. Another warm letter to Ray from Helier Rodriguez of Havana gives more of his itinerary on his recent European trip. He and Graciela flew to Amsterdam, stayed at The Hague, and then went to Brussels to visit the fair. In Germany, they traveled to Cologne, Coblenz, Bonn, Wiesbaden, Nuremberg, and Munich. After visiting Salzburg and Vienna, Austria, they returned by plane from Hamburg.

Receipt of mail from members of the Class is the brightest spot on the horizon for a class secretary. We wish everyone

would emulate Dave and India Woodbury and keep us posted, not only on day to day activities, but also in the middle of trips from one end of the country to the other. Appropriately decked out with a Lincoln stamp and postmarked at Springfield, Ill., on their 27th trip across these United States, this time from Ogunquit, Maine, to Santa Barbara, Calif., there came a note which says, in part: "Here is the map you were looking for to explain the peregrinations of the Woodburys across the U.S.A. We are not following a great circle route but visiting friends as we go. Unfortunately, they don't all live on the shortest path from Ogunquit to Santa Barbara. From here, we buckle down to 2,000 miles of minimum-detour travel. We did enjoy being with you and hope you will pay us a return visit at Ogunquit next summer." Thanks to you two, and keep us posted on that next writing-publishing project.

A letter to Ray from William B. Plummer reminisces about their sojourn in Whiting, Ind., back in the Twenties. Bill has retired as president of Indoil Chemical Company, a subsidiary of Standard Oil Company of Indiana, and is now a consultant with offices at 60 East 42d Street, New York 17, N.Y.

On no less authority than Plutarch: "It is no great wonder if in long process of time, while fortune takes her course hither and thither, numerous coincidences should spontaneously occur." The latest Class item for the "It did, too!" department was related to us by Sumner Hayward. Betty Hayward, Simmons'23, had been designated by her alma mater to be the Simmons representative at the formal ceremonies attending the inauguration of Harold Walter Stoke as the third president of Queens College, Flushing, N.Y. Imagine the Haywards' surprise to find that Irv Jakobson was the official representative of the Massachusetts Institute of Technology! It occurs to us that, seeing as how we waived the formal cap and gown ceremonies at our own graduation from the Institute, many of us have had more unusual occasions to don academic garb in later life. For us, one such memorable event occurred on the occasion of our 25th reunion, with the Institute's invitation to join the academic procession to the stage of Symphony Hall for commencement.

A helpful letter from Class Photo Historian Bob Miller of Falls Church, Va., sends us well organized capsule comments as examples of how an illustrated Class history might be set up for publication. Many thanks, Bob. The distinguished faculty-speaker list of the American Management Association carries the names of Ernie Henderson, President of the Sheraton Corporation of America, and Saul Silverstein, President and General Manager of Rogers Corporation. New addresses of the month include the residence of James Frederick Curtin, 13200 Fairhill Road, Cleveland 20, Ohio, and a change of residence from Waterbury, Conn., for Edwin L. Rose, who now lives at 4016 Northwest 29th Street, Miami 42, Fla.

In view of the increasing number of '21 classmates who are being signally honored by election to the national presidency of engineering and scientific societies, we are

finding it necessary to set up a new subject and file — and to do some research back into history to bring the records of the 1921 National Presidents Club up to date. Congratulations are in order to Dr. Joseph L. Gillson of Wilmington, Del., on his designation as president-elect of the American Institute of Mining, Metallurgical, and Petroleum Engineers. Joe is the head geologist for Du Pont and well deserves the honor. Just relinquishing the honor of the same office is Dr. Augustus B. Kinzel, Vice-president in charge of research, Union Carbide Corporation, and an Alumni term member of the M.I.T. Corporation. Besides Joe and Gus, we recall that Dr. Daniel P. Barnard, IV, who recently retired as research co-ordinator of the Standard Oil Company of Indiana, was honored a few years ago in being elected as the national president of the Society of Automotive Engineers. Dr. S. Paul Johnston was also recognized with the honor of being elected the national president of the Institute of the Aeronautical Sciences, of which he is now director. With so many prominent architects in the Class, it was a foregone conclusion that the American Institute of Architects would select one of them for its national presidency; and that is the honor which was given to Samuel E. Lunden of the architectural firm of Lunden, Hayward, and O'Connor of Los Angeles. In the textile world, Dr. Walter J. Hamburger, Director of Fabric Research Laboratories, Dedham, Mass., is a former national president of the Fibre Society. Have we overlooked anyone?

Dr. O. Kenneth Bates, Chairman of the Mathematics Department of St. Lawrence University, Canton, N.Y., was cited for 25 years of service to the university at a dinner for faculty and trustees last October. Ken was presented with an inscribed silver plate. He joined the St. Lawrence faculty as chairman of the mathematics department in 1933. Following our graduation, he had taught at the Institute from 1921 to 1933. He has been in charge of the basic engineering program at St. Lawrence since 1936, and during World War II he was in charge of the mathematics phase of the Navy's V-12 program at the university. He was on leave of absence from 1949 to 1951 to serve as assistant head of the scientific section of the Office of Naval Research in Boston. Dr. Walter J. Hamburger, Director of Fabric Research Laboratories, Dedham, Mass., spoke on the subject of scientific research in small business at the October sessions in Boston of the first New England Conference on Technical and Distribution Research for Small Business.

To Mrs. Louise Maguire and to the members of the Class of 1917, from the large number of us in 1921 who had the privilege of knowing and working with Frank Maguire '17, one of the founders and first president of the M.I.T. Club of Northern New Jersey, go our sincerest expressions of sympathy on his passing, October 23, 1958.

It is with heavy heart that we record the death of Joseph George Hauber on September 28, 1958, and express to his sister the deep sympathy of the entire Class of 1921. A native of Hastings-on-Hudson, N.Y., he was born on June 21,

1898, and prepared for Technology at the Yonkers and Hastings High School. At the Institute, he was a member of the crew for two years and was an active member of the Naval Architectural Society, the Mechanical Engineering Society, and the Aero Society. During World War I, he was an apprentice seaman in the S.N.T.C. Unit at the Institute. He was graduated with us in Course XIII and became associated with the Engineering Department of the Electric Bond and Share Company, New York. As assistant engineer in the Project Division, he analyzed power projects. In 1934, he joined Phoenix Engineering Corporation, an associated company. He became a principal engineer of Ebasco Services, Inc., in January, 1958. His hobby was yachting and for many years he was a member of the crew of the yawl *Witchcraft II*, competing in races on Long Island Sound. He is survived by his sister, Miss Leona Karoline Hauber of Hastings-on-Hudson, N.Y. We are indebted to Mr. W. N. Lewis, Director of the Personnel Relations Department, Ebasco Services, Inc., and to the Company magazine, *Ebasco News*, for aid in preparing these notes.

Calendar of events for 1921 in 1959: January or February, cocktails and dinner at the Midwinter Meeting of the Alumni Association, Cambridge; luncheon, cocktails and dinner at Alumni Day on campus in Cambridge, June 15; Amity Fund Conference, September, Cambridge. Now start the year right and send a note to your secretaries. — CAROLE A. CLARKE, *Secretary*, Components Division, International Telephone and Telegraph Corporation, 100 Kingsland Road, Clifton, N.J. EDWIN T. STEFFIAN, *Assistant Secretary*, Edwin T. Steffian, Architect, 11 Beacon Street, Boston 8, Mass.

## 1922

The major request received by your Secretary from President Parke Appel is to publish the names of the class regional chairmen working actively on our 40th anniversary gift campaign. This will be done in two sections, the first of which follows: C. Hall Baker; Roger C. Baumann; Roland H. Becker; Andrew M. Bell; George J. Bergman; Harold O. Berry; Ferris Briggs; Charles E. Brokaw; Professor Eyler Brown; Robert H. Brown; Charles H. Burnham; Leland K. Cowie; John J. Cychol; F. Reed Dallye; Edward F. English; Whitworth Ferguson; Arthur L. Flanders; Bernhard Gasser; Major Paul W. George; Clayton D. Grover; Edwin A. Gruppe; Herbert C. Ham; Elmer W. Hammond; William L. Hawes; William F. Herlihy; Colonel Randall J. Hogan; William E. Huger; Earold C. Jewett; Abbott L. Johnson, 2d; Clarence I. Justheim; and Allen S. King — more next month. Practically all of these '22 men have been active in various Class or Institute functions. Let's support them with cheers and dollars.

Bartow Van Ness, Jr., has recently been appointed chief electrical engineer of the Pennsylvania Power and Light Company with headquarters at Allentown and Bethlehem. He began his utility career upon leaving M.I.T., having received his master's degree in 1922. His promotions have been constant and his experience varied in

the various engineering responsibilities in both mechanical and electrical engineering fields. He is a member of several engineering societies and has served on various responsible committees, having been secretary of the Engineers Joint Council of Maryland and a member of the board of governors of the Engineers Club of Baltimore. He is a past president of the Johns Hopkins Engineering Alumni Association. Congratulations to Crawford Greenewalt on receiving the Medal for Advancement of Research from the American Society for Metals. Dr. Walter W. Boyd entertained the members of Rotary Club in Nantucket in September, showing his personal movies of "Africa Revisited." Now one of the top obstetricians in Boston, Dr. Boyd started the study of birds as a hobby and has many close-up photographs and movies of a large variety of birds. He originally graduated from Course VI and later graduated from Harvard Medical School.

Edward Bowles has been heading an industry panel which issued a critical report of the Federal Communications Commission. This report was based on a three-year study hoping to bring about amendments to the Communications Act of 1934 recognizing technological advances. Among the unusual honors are included those acknowledging production of M.I.T. students. Our records indicate that Fred Chase Koch had son Charles D. in the Class of '57 and now has two sons, David H. and William I., in the Class of '62. Oscar Horovitz is again receiving honors for his ability and desire to help others in the photographic field. R. G. Macdonald has been appointed executive secretary-treasurer of the Technical Association of the Pulp and Paper Industry. He has provided leadership over many years to this group as it has grown in membership from 700 to more than 9,000. Mr. Macdonald has been associated with the Pejepscot Paper Company and Oxford Paper Company and served as market research manager for *Chemical and Metallurgical Engineering*, a McGraw-Hill publication. A very nice picture in the *Boston Sunday Herald* shows Earl H. (Buck) Eacker, President of the Boston Gas Company, as one of the hosts to Mrs. America. Buck gets all the breaks. The Buffalo newspapers showed pictures last month of Whitworth Ferguson receiving a citation from the University of Buffalo for "outstanding ability and distinguished accomplishment in the field of civic affairs" (Secretary blowing horn).

George Dandrow has now submitted the complete account with newspaper clippings of our report in the November issue. This covered the great honor received by Abbott L. Johnson, culminating in a ceremony naming the airport of Muncie, Ind., as Johnson Field. All of the important people of the surrounding area attended the event, and several television programs out of Indianapolis helped Ab and Vice-president Richard M. Nixon in the dedication ceremonies. The Vice-president said he was happy to be in Muncie to pay tribute to Abbott Johnson. The dedication plaque included "in recognition of the civic leadership, intention, faith, and persistence of Abbott L. Johnson and his contribution to the progress of aviation." We

have always been proud of Ab and are now busting our buttons.

Stanley W. Turner is pictured in the *Boston Traveler* as approaching the goal of the Million Dollar Round Table. He is with the Arthur G. Boardman Agency for The Mutual Benefit Life Insurance Company. Address changes are the following: Edwin A. Gruppe, Fayetteville, N. Y.; Major James B. Arthur, Houston 6, Texas; Dr. Thomas W. Hackett, Westport, Conn.; Walter E. Lennon, Adams, Mass.; Carl J. Lundborg, Butte, Mont.; and Edward A. S. Morse, Charleston, W. Va. Be seeing you on the Alumni Fund roster. — WHITWORTH FERGUSON, *Secretary*, 333 Ellicott Street, Buffalo, N.Y. C. GEORGE DANDROW, *Assistant Secretary*, Johns-Manville Corporation, 22 East 40th Street, New York 16, N.Y.

## 1923

Professor Bernard E. Proctor, Head of the Department of Food Technology, was honored when his portrait was presented to the Institute on Sunday, November 23, 1958. The portrait was accepted on behalf of the Institute by Dr. Julius A. Stratton, Acting President, and was made possible by students and classmates of Professor Proctor when approximately \$3,000 was raised under the direction of Earl A. Griswold. Mr. Jacob Binder was the painter.

Dr. Julius A. Stratton, Acting President of the Institute, was one of the principal speakers at the dedication ceremonies for a new \$2 million laboratory of the Nuclear Metals, Inc., in Concord, Mass., in October, 1958. Dr. Julius A. Stratton said, in his annual report issued in October, that American high schools lag in preparing graduates for the rigorous self-discipline of higher education and that this lag is critically hampering the effort of top professional schools to meet the scientific challenge of the Russians.

Mr. David W. Skinner, Vice-president of Polaroid Corp., and also the firm's general manager, was a guest speaker at the October meeting of the Greater Lawrence Industrial Management Club. His subject was "Prescription for Management Development."

Mr. Alfred E. Perlman, President of the New York Central Railroad, issued a statement late last year stating that the New York Central has developed a method for transporting huge but delicate missiles in pullman car comfort. The technique of handling these delicate missiles safely without damage to their delicate mechanisms was developed at the company's research laboratory, which was set up by Mr. Perlman in 1955. Mr. Richard L. Bowditch, Chairman of the board of C. H. Sprague and Sons, Boston, has been named to the board of trustees of Bates College.

Your Secretary presented a personally narrated colored movie on "Alaska" to a ladies' night party conducted by the M.I.T. Club of Central Massachusetts at the Mount Pleasant Country Club in Boylston on December 9.

Our Class President, Horatio Bond, has appointed regional vice-presidents to promote attendance at the 40th reunion and to be chairmen of the Alumni Fund campaigns in their respective areas. The

following are his quotes relative to the regional vice-presidents, the 40th reunion, and the 40-year gift to M.I.T.: "When the new class officers were elected at the 35th reunion, the President was authorized to name regional vice-presidents. The idea was that this would provide individuals in different parts of the country who might maintain some informal contact with members of the Class on a geographical basis principally, with the idea of promoting attendance at the 40th reunion. Accordingly, a number of individuals are being asked to serve as class vice-presidents on a regional basis.

"The development of regional Alumni organizations for the promotion of the Alumni Fund provides a particular field of usefulness for these regional vice-presidents, who in each case are being asked to include among their duties regional chairmanship of Class of 1923 regional Alumni Fund campaigns. Traditionally, classes at M.I.T. have tried to have big reunions and special observance of their 25th and 50th anniversaries. Special recognition of the class is customary at commencement and Alumni Day celebrations in those years. From now on, however, this special recognition will be accorded to a class on the occasion of its 40th instead of its 50th anniversary.

"Previous class officers had given thought to a program looking forward to a substantial class gift which might be presented to the Institute on the occasion of our 50th reunion. Moving the big reunion from the 50th to the 40th anniversary would have imposed a real burden on the class officers if it were not for the Alumni Fund program. The Class will now be able to announce as its gift, at the big reunion and Alumni Day celebration on our 40th year in 1963, the total of all contributions and special gifts to the Alumni Fund by members of the Class during the coming Alumni Fund year and the subsequent period up to Alumni Day, 1963. By this procedure, individuals who might like to contribute very substantially to an anniversary 40-year gift will be able to pay annual installments and make a substantial total in the five-year period."

Jack Zimmerman, who has been president of our Class for the last five years, has just returned from Europe and he wishes to report to the Class as follows:

"John J. Murphy and Mrs. Murphy and Mr. and Mrs. Zimmerman were entertained in Brussels at practically the same time as our 35th reunion in Connecticut by Dr. and Mrs. Paul Heymans. It was a real pleasure to see Paul again because of our old contacts when we were both on the staff at the Institute after graduation. Paul is a real power in Belgium. He is not only associated with the government in a very high capacity but he is also an industrial leader in his country. Paul was also in charge of the Vatican exhibit at the Worlds Fair in Brussels. It was a pleasure to meet his associates there; but unfortunately I missed seeing him the second time because, according to his secretariat, he was unable to keep our appointment due to an 'unforeseen demand for conference with the King.' I do not expect to miss our 40th reunion, and I will do everything possible to further a real affair at that time." — HERBERT L. HAYDEN, *Sec-*

*retary*, E. I. du Pont de Nemours and Company, Leominster, Mass. ALBERT S. REDWAY, *Assistant Secretary*, 47 Deepwood Drive, Hamden 17, Conn.

## 1924

Welcome to 1959. By the time you get used to writing that date on your checks, it will be time to send in your reservation for the Oyster Harbors Club in June — and, for the lucky few, time to start packing for the Mexico City Fiesta. Which, by not too illogical steps, leads to the big New Mexico conference last November. First of the M.I.T. regional conferences this year, it was held in Albuquerque. Max Ilfeld, of course, was one of the prime instigators; and after the one-day show he guided a little group of sight-seers up north into his home territory. As was to be expected, Bill MacCallum had again figured things just right and was on hand for the affair.

The fall season of Class luncheons in New York started off in October with only eight in attendance. No doubt the numbers will pick up as time goes on. Nate Schooler was there; but his son Jerry, who usually acts as secretary, was notable by his absence. He's still busy at work as a student at M.I.T. Bill Correale, Ed Wininger, Walter Bagby, Austin Cooley, Sox Kinsey, Gus Rudd, and Henry Tanck completed the line-up. The old reliables, Littlefield and Cardinal, let business interfere.

In the past we've told you something of Luis Ferré's many and diverse interests, but evidently we missed a couple. A recent picture of Luis in *Town and Country* showed him in shirt sleeves at his desk looking very businesslike with the usual telephone prop. The caption read, "One of Puerto Rico's top industrialists, Luis Ferré is an industrial engineer, M.I.T. graduate, amateur pianist, and patron of the arts. His family sponsored the fifth annual opera season in Puerto Rico's capital, San Juan." If we can get Luis away from his desk to come to Cape Cod next June maybe we can get him at the piano.

There's been a battle going on this fall in Essex County (Mass.) over a 26-mile power line. It's the old story of overhead versus underground with the obvious opposing forces. A news report of one of the early meetings said: "High light of the day was the battle of the electrical wizards." Chief wizard for New England Power was Herb Stewart, in charge of their electrical engineering department. The opposition countered with another M.I.T. man, Carl Sittinger'10, a consulting engineer, and threw in a Columbia man for good measure. Also drawn up in battle array against Herb: the ladies of several garden clubs. No decision as we go to press. We'd bet on Herb except for those irate females.

You probably read in the papers of Jimmy Doolittle's new job. On January 1 he became board chairman of Space Technology Laboratories, a subsidiary of Ramo-Wooldridge but a separate corporation. The General will continue as a board member of Shell Oil but has retired as a vice-president. Last summer there was a big meeting in Los Angeles on aero-

nautics, "From Zero to Infinity." Several M.I.T. speakers on the three-day program, among them the opening day luncheon speaker, Dr. Frederick E. Terman, Provost and former Dean of Engineering at Stanford.

Typhoon Marie (or Marjie, can't be certain) caused Hank Simonds a bit of trouble in the Pacific. It zigzagged all over the ocean and made them backtrack into Guam. His card this time is lacking its usual Oriental beauties. A bleak picture of the ruins of the Guam post office instead!

The Hercules Powder house organ ran a feature story on Howard Whitaker recently. Much too long to quote in any detail, but they said a lot of very nice things about Mead Corporation's board chairman. Here are a few samples: "Honors to (Whit) for his candid view of public relations: 90 per cent performance and 10 per cent talking about it—for graduating from M.I.T. with a master of science degree in Chemical Engineering, then judiciously aligning himself with a constructive career—for his broad-gauged, broad-shouldered industrial leadership, open-handed and open-minded approach to life and people—for his unflagging initiative that energizes inspirational momentums." There's plenty more, ending with the line: "to 'Whit' for standing six feet two and being every inch a man of stature." A very flattering piece that didn't sound at all like an obituary, as most such tributes do.

Can't report much excitement on the local front. George Knight has pulled his boat up for the winter. There's a rumor that Mart Buerger is going to Belgium soon to pick up an honorary degree from some place. Your Secretary is busy at work on a book which may help solve your Christmas problem (1959, that is). Called *The Tale of a Meadow*, it's for children, 10 to 14. About all we can gather together for now. Be back next month. —HENRY B. KANE, *Secretary*, Room 1-272, M.I.T., Cambridge 39, Mass.

## 1925

It is not too soon to be making plans for the 35th reunion, which comes up in 1960; the first step in organizing for the reunion has been taken by President Fred Greer, and I am sure everyone will be pleased to learn that Henry McKenna has agreed to take on the job. Fred Greer is on a trip to the Middle West as these notes are compiled (November 10); but as soon as he returns, further steps toward the reunion are promised.

During the summer, an article appeared in the *Tulsa* (Okla.) *World*, announcing the fact that the Midland Exploration Company of Tulsa had elected Ben Groenewold as president of the firm and vice-president of Sharp Drilling Company. In addition to these positions, Ben is director of the American Association of Oilwell Drilling Contractors and is chairman of that association's rotary drilling committee.

The Class of 1962 has the sons of two 1925 men included in its group. They are Frederic Clark Wehmiller of Brightwaters, N.Y., son of Horace E. Wehmiller; and James Carmichael Evans, Jr.

of Washington, D.C., whose father is James C. Evans, Sr., and whose uncle is George L. Washington, also of the Class of 1925. —F. L. FOSTER, *Secretary*, Room 5-105, M.I.T., Cambridge 39, Mass.

## 1926

This issue of class notes first calls for a greeting to all—may your year, 1959, be most prosperous and happy! While these notes are being compiled as usual at Pigeon Cove, a wild storm rages outside. As a consequence, we will probably head for town upon the completion of the notes. A storm at the edge of the sea is quite an experience but it does become monotonous and sometimes even depressing. But inland just a few miles, the same storm will be nothing but a gentle rain. Therefore, let's get started so we can make that trek inland.

This month, we have so many news releases, clippings, and so forth, that we have merely attempted to boil them down and give you a real news report. What could be better to start with than a report about our number one classmate, Jim? "At a dinner given in his honor on October 1 at the Waldorf-Astoria, James R. Killian, President of M.I.T. and special advisor to President Eisenhower, received the Gold Medal World Brotherhood award from The National Conference of Christians and Jews." Another Jim also recently made headlines in the business section of the *New York Herald-Tribune*; and the article also contained a picture of classmate, Jim Dunham, looking just as youthful and handsome as in the year 1926. We quote: "James W. Dunham, Vice-president and Chairman of the finance committee of Chemetron Corp., has been elected president of Midwest Carbide Corp., calcium producing subsidiary of Chemetron and Shawinigan Products Corp."

Classmate Stark Draper has acquired another gold medal. I must ask Stark the next time I see him whether he has a trophy room in his home to contain all of these honors. This time we quote from *The Tech*: "Dr. Charles S. Draper, Professor of aeronautical engineering and Head of the Aeronautical Engineering Department, was awarded the Admiral William H. P. Blandy Gold Medal last night by the American Ordnance Association at a meeting held at the Watertown Arsenal, Watertown, Mass. Colonel John S. Pfeil, U.S.A. (retired), District Chief of the Boston Ordnance District and a regional vice-president of the Association, made the presentation before members of the Association's Yankee Post. Dr. Draper was cited for his outstanding contributions to the progress of aeronautical engineering and particularly his achievements in the development of infrared signaling devices." Bernie Morgan continues to move up in his company as evidenced in a recent news release, from which we quote: "M. Bernard Morgan has been promoted to the new position of chief engineer of the Fibers Division of American Viscose Corporation, according to Paul E. Hill, Vice-president. Mr. Morgan started with American Viscose Corporation in 1928 as assistant chief engineer at the Meadville, Pa., plant, where he became chief plant

engineer in 1938. He was transferred to the Corporation Engineering Department in Philadelphia as administrative engineer in 1943. In his new position Mr. Morgan will be located at the main office of the Corporation in Philadelphia." We recently read in one of the Boston papers that Don Cunningham is serving as area chairman in his town of Braintree for the advance gifts department of the 1959 United Fund campaign. Don has been actively associated with Red Feather campaigns in this area for many years and, as you know, he is always on hand to help with any of our Class of '26 activities.

Eastman Kodak has recently announced another advancement for one of our classmates: "Allen L. Cobb has been appointed director of industrial safety and will head a new industrial safety department. The new department, part of the industrial relations division at Kodak Park, will have responsibility for accident prevention, plant protection, and fire protection." This month has brought more news releases than we have ever had about our classmates. My first reaction was that perhaps more companies had established public relations departments, but then I realized that the truth of it is that more '26 men are being promoted in industry than ever before. Here is still another news release about a member of our Class: "George J. Taylor, Vice-president of Eastern operations for Day-Brite Lighting, Inc., has been elected president of the Illuminating Engineering Society for a one-year term beginning October 1, 1958. Mr. Taylor is in charge of all eastern region technical and sales operations relating to illuminating engineering for Day-Brite Lighting, Inc." This next one has a heading of press release; but whatever they wish to call them, your Secretary welcomes them. "Cleveland, Ohio. New national officers nominated to lead the 30,000 member American Society for Metals during 1958-59 were announced last week by the Society's nominating committee. Walter Crafts'26 was selected as nominee for vice-president. He is associate director of research, Metals Research Laboratories, Electro Metallurgical Company, Niagara Falls, N.Y."

While we still have a couple of additional news releases in the file, we do want to have some material on hand to start February's class notes. Therefore, we will finish up with one interesting item—a list of students in the Class of 1962 who are sons of members of our Class. "In the Class of 1962 at M.I.T. are: John Louis Costello, 116 Tonawanda Street, Dorchester, Mass. (father—Angelo Costello, M.I.T.'26); James Stark Draper, 62 Bellevue Street, Newton, Mass. (father—Charles S. Draper, M.I.T.'26, Professor of aeronautical engineering, M.I.T.); Bardwell Chenery Salmon, 37 Pleasant Street, Hingham, Mass. (father—Chenery Salmon, M.I.T.'26; brother—William C. Salmon, M.I.T.'57)." With the storm continuing to rage, I will put away the Class of '26 file, pack our bags, and head for town before lunch. Best to all until February. —GEORGE WARREN SMITH, *General Secretary*, c/o E. I. du Pont de Nemours and Company, Incorporated, 140 Federal Street, Boston 10, Massachusetts.

Let's see. Your Secretary has been made chairman of the aviation advisory committee of the American Petroleum Institute and a vice-president of the Wings Club of New York. He is also now double grandfather.

Glenn D. Jackson's son Glenn, 3d, '55 is now out of the Air Force (jet pilot) and is working for Dewey and Almy Chemical in Georgia, South Carolina, and Florida.

From Wentworth Institute, Wellesley, Mass., comes the announcement that Jerome L. Spurr was among 16 new instructors appointed to the faculty for the academic year, which began in September of this year. He will teach civil and high-way engineering technology. In the Class of 1962 at M.I.T. is Michael A. Gorfinkle, son of Meyer G. Gorfinkle, Class of '27.

Russell P. Westerhoff, a Vice-president of Ford, Bacon, and Davis, Inc., New York firm of management consultants and engineers, has been named to a two-year term as director of the National Society of Professional Engineers, to represent the New Jersey Society of Professional Engineers. He has been with the company since 1928.

Ralph B. Johnson of Honolulu, Hawaii, has been appointed to the Educational Council of the Massachusetts Institute of Technology. This council is a nationwide organization of M.I.T. Alumni established to assist schools and to counsel young men and women interested in the broad areas of the scientifically oriented education represented at the Institute. Mr. Johnson, who is Executive Vice-president of the Hawaiian Electric Company, Ltd., will work closely with individual secondary schools and community youth organizations. He will be available to discuss the educational fields represented by institutions such as M.I.T., as well as the Institute itself, with any student in the area who may be interested.

Charles C. Smith has been elected president of the Auer Register Company, 6600 Clement Avenue, Cleveland, leading manufacturer of registers and grilles for heating and heating-cooling systems. Previously Charlie was management consultant with Ebasco Services, Inc. He has also been consultant to the president and general manager of the special products division of Lord Manufacturing Company.

Richard H. Tingey, the missing Bethlehem Steel's nuclear scientist, is last known to have been seen when he sailed from Quincy Yacht Club, September 6, alone on his 38-foot sloop, *Trani*. National security may be involved in the mysterious disappearance. He sailed alone to an unknown destination, and no trace of him or of his boat has been found despite a search which was underway for several days, and was probably the most extensive and most expensive ever undertaken in this area for a single missing person. — J. S. HARRIS, Secretary, Shell Oil Company, 50 West 50th Street, New York 20, N. Y.

## 1928

Here we are in a fresh new year! While you are still in a mood for making good resolutions, how about resolving that you

will send in some personal news to this column — and soon! No news, no column.

Your Assistant Secretary sat next to an employee of Sylvania Electric Products, Inc., during a plane trip recently and learned from him that our good classmate Gus Stachelhaus (Course X) had just been promoted to manufacturing manager of Special Tube Operations at Sylvania's plant at Mountain View, Calif., near San Francisco. Our congratulations, Gus, and best wishes for your continuing success!

We were much saddened to learn that Harlan R. Jessup died in October. The news was contained in the following letter from his son, Harlan R. Jessup, Jr., and addressed to the secretary of the M.I.T. Club of Philadelphia: "This is to inform you of the death of my father Harlan R. Jessup, '28, from a cerebral hemorrhage on October 12, in Tulsa, Okla. I would much appreciate it if you would pass the information on to the M.I.T. Alumni Association.

"Dad was born in Media, Pa., on July 24, 1906. He spent the greater part of his life in Swarthmore, Pa., where his parents still live. He was graduated from the William Penn Charter School in 1924 and from M.I.T. in 1929. During the war he served as a naval officer, attaining the rank of lieutenant commander. After the war he headed the firms of Harlan R. Jessup and Co., an automobile agency, and the Jessup Associates, an advertising firm, both in Media, Pa. He had recently taken a position as advertising manager for Leslie Brooks and Associates of Tulsa.

"He is survived by his parents, Mr. and Mrs. J. Harlan Jessup; a sister, Mrs. Charles E. Lincoln; two daughters, Mrs. Henry L. Harvey and Miss Martha; his wife; and my son James Harlan, besides myself.

"Dad always loved M.I.T. He almost persuaded me to go there, and he was always so unhappy when the pressures of business prevented him from taking part in more M.I.T. activities. Sincerely, Harlan R. Jessup, Jr." — GEORGE I. CHATFIELD, Secretary, 100 East 42d Street, New York 17, N. Y. WALTER J. SMITH, Assistant Secretary, 15 Acorn Park, Cambridge, Mass.

## 1929

A meeting of the 30th reunion committee was held at the Faculty Club on October 15. In attendance were Francis Mead, Chairman, and Mary Mead; Bill and Doris Baumrucker; Fran Donahue; Ed and Clara Farmer; Wally and Joan Gale; Paul Gill; Sears and Dot Hallett; Fish and Peg Hills; Sol and Eleanore Horwitz; Gordon and Olive Williams; and John and D. A. Wilson. Due to business commitments Jack Osborn, Jim Fahey, and Eric Bianchi and their wives were unable to attend. Carl and Dot Peterson were also absent, due to a hunting trip to which Carl had long looked forward.

The group reviewed a letter to the total '29 Class which had been drafted and found it completely acceptable. The letter will be now in your hands. Joan Gale outlined for the ladies the many possibilities of entertaining trips in the general vicinity of the Bald Peak Colony Club and brought along some samples of typical souvenirs

of this mountain area. The group quickly approved her selection as souvenirs for the 30th. Wally Gale outlined the many possibilities for golf, boating, fishing, and sight-seeing. A complete resumé has been provided to all committee members, who will meet at the Faculty Club again on January 14 to crystallize the plans. A substantial part of the group who attended the 25th has already indicated that they look forward to being present at the 30th; and we are confident that as soon as others become aware of the good time to which they may look forward at the Bald Peak Colony Club, not only will all those who attended the 25th put in an appearance but we can look forward to welcoming many faces which we have not seen for a number of years.

Brig Allen writes: "The Bald Peak Colony Club in Melvin Village, N. H., certainly sounds like a really interesting spot. Evelyn and I certainly will attend and are looking forward to it. I regret that I can't do more to help with the arrangements but will certainly see if I can't get as many of our classmates in the vicinity to attend as possible. I recently built a new building here in Berkley for my offices and have the Master Electric Division and the Reeves Pulley Division in with me now; so will you please change my address to 2734 West Eleven Mile Road, Berkley, Mich."

A note from Bill Young, who reports: "Marge and I are 'Up in the land of ice and snow; up in the land of the Eskimo' doing some consulting work for the Quebec Natural Gas Corp. here. God and Quebec Natural being willing, we shall be there for the 30th this summer." Bill's address is Apartment 303, 5051 Clanranald Avenue, Montreal, P. Q., Canada.

A note from Fred Celler, who is vice-president for sales of Brewer-Titchener Corp. in Cortland, N. Y.: "You can put me down for attending the next reunion in June. My wife and I will be there, and my son only if his business permits. We saw Wally and Joan in New Hampshire during the course of the summer and we endorse strongly the selection of the site for the next reunion." And from Bill Harris from Biddeford Pool, Maine: "Kitty and I plan to be present at the reunion in June." Frank Pierson writes that he has a possible conflict with his daughter's graduation; but barring this, he and his wife will attend. Ray Underwood also has a conflict with his daughter's graduation, and it looks as if he will not be able to be with us. Dan McDaniel says: "Betty and I are planning to be at the 30th reunion in June. I wish there were something newsworthy that I could send along to you, but all I can report is that we are still struggling with problems as outlined to you when we were last together." Len Peskin in a note says: "We are definitely looking forward to attending the reunion the week end of June 13 and 14. My wife will be with me; and if at all possible I will try to talk my young son, who will then have graduated from Wesleyan University, into joining us for what I think would be a most pleasant experience." Charlie Bacon writes: "Betty and I would enjoy a couple of days on Lake Winnepesaukee, but I doubt if we can make it." Elmer Skonberg is on the fence but thinks

at the moment he cannot attend. (I'll have to put the bee on Elmer on one of my trips through Louisville.)

As we go to press, I am looking forward to receiving from you all the reply cards enclosed with the first mailing. We are all sure that if you could see the layout at Bald Peak you would agree that it is an ideal place to spend a relaxed week end. The brochure does not nearly cover the charm of the spot.

A news release: Sid Albert has been appointed to the Educational Council of Tech by Dr. Stratton, Acting President. Sid is a partner in the Albert Pipe Supply Co. of Brooklyn and is one of 11 Council members from the Long Island area. As an educational counselor, he will work closely with secondary schools and community youth organizations.

I would like to quote from a letter I received from Adam Stricker, who is special gifts chairman for the Class. This seems particularly apropos to me: "Your gifts to M.I.T. make it possible for others to acquire the same high degree of education that we were able to receive while at Tech. The gifts of those before us sustained the Institute while we were there, and it now becomes our assignment to accept this responsibility for the future generations of students. In a sense, all of us received at least a 50 per cent scholarship; for at no time in the history of the Institute has the tuition ever covered more than half of the academic cost. Today's tuition of \$1,300 is applied against an academic cost of some \$2,800 per student. Our generosity assures the Institute its independence." Your Secretary wonders whether we have fully reflected upon the fact that we were in effect on a 50 per cent scholarship when we were attending the Institute. — FISHER HILLS, Assistant Secretary, 62 Whittemore Avenue, Cambridge 40, Mass.

## 1930

In the Class of 1962 at M.I.T. are Robert Allen Lytle, Jr., son of our classmate Robert Allen Lytle, and George Mead Wyman, son of our classmate George F. Wyman.

By way of a newsclip from the *Lexington* (Mass.) *Minute Man*, we have received word that Bob Jacobs has been appointed the new chief structural engineer at Stone and Webster Engineering Corporation of Boston. He joined Stone and Webster in 1941 after working for the New England Power Company, the U. S. Forest Service, and the U. S. National Park Service. He has worked on chemical plants, industrial plants, power stations, and transmission lines — and also on nuclear facilities including the Manhattan Project at Oak Ridge, Tenn., and the synchrotron for the Brookhaven National Laboratories on Long Island. Bob is a member of the American Society of Civil Engineers and the National Society of Professional Engineers.

Another newsclip, this one from *Electronic News* and dated Monday, October 13, 1958, carried a story about Herm Scott's company (H. H. Scott, Inc., Maynard, Mass.). The article stated that the company has made known the development of a new 36-watt amplifier, which

includes a preamplifier with versatile controls, and comprehensive tape and stereophonic facilities.

Charlotte Winemore sent us a note saying that she is completing her ninth year with the Columbus, Ohio, Red Cross Blood Program, of which she is the director. The region has 23 counties of central Ohio, and contains nearly 50 hospitals. All of the blood used by these hospitals is Red Cross — in the neighborhood of 55,000 pints per year.

Morris Young wrote that he is practicing ophthalmology at 170 Broadway, New York 38, N.Y., and is associated with the New York Polyclinic Medical School and Hospital as adjunct professor. He is also with the New York University Bellevue Medical Center, University Hospital. As we told you in a past issue of *The Technology Review*, Morris, in 1955, donated a 12,000-item collection on illusion practices to the Library of Congress, which added to Houdini and McManus collections there makes the Library of Congress the largest such research holding. He donated a similar but smaller collection to the University of Texas, Austin, in 1957, establishing a southwest center in this field. He is now embarked in search of material on memory systems and mnemonics and says he has the largest privately owned collection of this nature.

Guillermo Zuloaga wrote us from Caracas, Venezuela. He is director and member of the executive committee of the Creole Petroleum Corporation in Caracas, is a member of the Academia Nacional de Ciencias Físicas, Matemáticas y Naturales (seat #7) of Venezuela, and honorary professor of the faculty of engineering, Central University of Venezuela.

The following changes in name or address have been called to my attention: Robert A. Blondell, 89 Deerfield Road, Norwood, Mass.; William E. Cullinan, Jr., 41 Bay View Drive, Portland, Maine; Michael L. Fenton, 71 Orchard Lane, Watertown, Conn.; Elmer D. Goodale, R.C.A. Laboratories, Princeton, N.J.; Arthur W. Griffith, Lukens Steel Company, 11 North Pearl Street, Albany, N.Y.; Dr. Winslow H. Hartford, 309 Southfield Drive, Fayetteville, N.Y.; Rudolph J. Israel, 1234 41st Avenue, Sacramento 22, Calif.; Dr. Joseph E. A. Kania, 4th Floor, 744 West Hastings Street, Vancouver, British Columbia, Canada; Warren H. Martell, 35 North Kensington, La Grange, Ill.; Nathaniel P. Rand, R.D. 2, Milford Crossroad, Newark, Del.; Captain Joseph E. Rehler, District Public Works Officer, Building 1-A, 9th Naval District, Great Lakes, Ill.; Arthur D. Roberts, 266 East Street, Wadsworth, Ohio; Dr. Ferdinand L. Rousseve, 25 Whittemore Road, Newton 58, Mass. — GEORGE P. WADSWORTH, Secretary, M.I.T. Room 2-285, Cambridge 39, Mass. — RALPH W. PETERS, Assistant Secretary, 249 Hollywood Avenue, Rochester, N.Y.

## 1931

Like so many of us, Randy Binner reports that he's having calorie trouble. He looks fine but the doctor insists he take off a few pounds — even if he has to give up his before-dinner cocktail.

Randy recently returned from a business trip to Africa, where he had a number of interesting experiences.

An article in the September 29 issue of *Electronic News* quotes Dr. Gordon Brown as saying: "A graduate of the (Electrical Engineering) Department a decade ago will recognize in today's program little of what he had studied. But we hope he will feel that he now sees what he wishes he had studied." Later, the same article says: "At M.I.T., in addition to giving the laboratory a more important place in the learning process, there has been a simultaneous move to provide facilities for the creative type engineer. Dr. Brown explained that the school has recently initiated an option in electrical science and engineering. The school has also abandoned an option structure that was attempting to provide specialization by fields, such as power, communications and radar." Those E.E. courses were tough enough in our day, but I wonder how they are now. Another note mentions that Gordon Brown is among the contributors to a book entitled: *Recent Advances in the Engineering Sciences, Their Impact on Engineering Education*, published by McGraw Hill Book Company, Inc., New York.

A note from Ralph Davis, postmarked from Grand Falls, Newfoundland, mentioned that he was there on an extended business trip. His business address, though, is still 60 Congress Street, Boston, Mass., where he is a partner in the insurance firm of Fairfield and Ellis.

Talked with John Elting over the phone recently. John is director of Research for Kendall Mills and lives in Charlotte, N.C.

While in Detroit recently, Ducky Graham — now known as Ike — and his wife, Jo, joined me for lunch and drove me out to the airport. They both look well and seem to be thriving in their lakefront apartment at 8900 East Jefferson Avenue. Ducky is civilian chief, National Stock Control Point Ordnance Tank, Automotive Command, Ordnance Corps, U.S. Army. He has just returned from a six weeks' business trip through Europe.

John M. Hollywood made the news again when he spoke, with two others, before the 1958 National Electronics Conference, which was held in Chicago on October 13 through 15, on the subject of "A Two-Way Stereophonic Amplifier."

The September, 1958, Newsletter, published by the M.I.T. Club of New York, included the following article, entitled "Orbanowski First in Sailing Series," with the dateline, Larchmont, N.Y., July 26: "The Larchmont Yacht Club's 60th annual race week was concluded today with racing conditions that were far from satisfactory. A fog that kept visibility down to a quarter of a mile caused confusion for skippers and crews on Long Island Sound and a strong wind with a heavy sea made rough going. Horst Orbanowski ('31) and Dennis Posey were the only defending class champions to repeat their victories of last year. Orbanowski, who has been a top skipper in his Atlantic sloop, *Ann*, gained a three-point decision for his triumph this week. Posey sailed his *Thistle* menace to a repeat decision. Orbanowski of the Horseshoe Harbor Yacht Club had 17 points after a fifth-

place finish in the final. Ted Reyling in *Flying Cloud* was second with 20."

A clipping forwarded by the Institute from the Proceedings of the Institute of Radio Engineers tells of Don Sinclair's election as director of I.R.E. This clipping states: "Donald B. Sinclair (J'30-A'33-M'38-SM'43-F'43) was born in Winnipeg, Manitoba, Canada, on May 23, 1910. He attended the University of Manitoba from 1926 to 1929, and worked part time as a radio operator for Western Canada Airways. He then transferred to Massachusetts Institute of Technology, where he received the degrees of S.B. in 1931, S.M. in 1932, and Sc.D. in 1935. During this period he was enrolled in a co-operative course in electrical engineering, and worked at the New York Telephone Company, the Western Electric Company at Hawthorn, and the Bell Telephone Laboratories. While studying for his doctorate he was a research assistant in the Department of Electrical Engineering at M.I.T. and spent one year working on his dissertation at the General Radio Company. He remained at M.I.T. for one year after receiving his degree.

"He was employed by General Radio Company in 1936, and subsequently became assistant chief engineer, and chief engineer. In 1955 he was appointed vice-president, and in 1956 was elected a director. He is also a member of General Radio's Management and new products committees, chairman of the patents and development committees, and a trustee of the General Radio profit-sharing trust. During World War II he was in charge of the search-receiver work for radar countermeasures at the Radio Research Laboratory at Harvard University, and was a member of Division Five of the National Defense Research Committee on guided missiles. In 1943 he went to North Africa with the first Ferret plane to be sent to the European theater of operations. For his work on countermeasures and guided missiles he received the President's Certificate of Merit in 1948. From 1954 to 1958 he was a member of the Technical Advisory Panel on Electronics of the Department of Defense.

"Dr. Sinclair was president of the IRE in 1952, following a term as treasurer in 1949-50. He served on the executive committee in 1948-50 and again in 1952-53, and was previously on the board of directors from 1945 to 1954. He has represented the Institute on the Radio Technical Planning Board, the Joint Institute of Radio Engineers—American Institute of Electrical Engineers Co-ordination Committee, and most recently, at the 1958 meeting of the A. S. Popov Society in Moscow. In the Boston Section he has been a member of the executive committee, 1946-48 and 1952-58; member and chairman of the awards nominating committee; and chairman of the program committee. This latter term of office included the first NEREM meeting in 1947. He is a fellow of the American Institute of Electrical Engineers, and a member of Sigma Xi and the American Association for the Advancement of Science."

Word from the Alumni Association tells of Lombard Squires's renomination by the Alumni Association for the position of Alumni member on the M.I.T. Corpo-

ration Visiting Committee for the Chemical Engineering Department. The purpose of the Committee is to give the Department of Chemical Engineering the benefit of advice and opinions of an interested group other than those actually connected with the M.I.T. Faculty or Administration.

A note in the Packaging Institute's August-September issue of *Packet* tells that Wally Tibbets has been named vice-chairman of the Materials Division of the Packaging Institute. Wally is assistant director of Bakelite's Development Department. The article mentions that Wally has been active in the Packaging Institute since 1946, principally with the Films and Foils Committee, and has twice served as chairman of that group. He is also a member of the Technical Operations Committee, and served as chairman of the Films and Foils Seminar at the 1956 Annual Forum.

It is interesting to note that the Class of 1962 at the Institute includes a number of relatives of members of our Class. Among these are Byron N. Martin's son, Donald Paul Martin; George Cohen's nephew, Stephen Gerald Checkoway; and Dr. William Metcalf's nephew, Harold Joseph Metcalf.

Changes in address reported since our last letter include: Dr. George A. Catanzano, 384 Main Street, Nashua, N.H.; Vice-admiral Clarence E. Ekstrom, Commander, Sixth Fleet, c/o F.P.O., New York, N.Y.; Chik H. Lam, 76 MacDonnell Road, Hong Kong; William C. Lamb, Gulf Oil Corp., Box 35, Bowling Green Station, New York 4, N.Y.; John M. MacBrayne, Jr., 101 Kenilworth Road, Mountain Lakes, N.J.; John L. Turner, 1628 Douglas Drive, Jackson, Miss.—EDWIN S. WORDEN, *Secretary*, 9 Murvon Court, Westport, Conn. GORDON A. SPEEDIE, *Assistant Secretary*, 90 Falmouth Road, Arlington 74, Mass.

## 1932

Bennett Archambault, XV, President of Stewart-Warner Corporation, spent part of the first half of this past year serving on the General Doolittle Committee, which studied and reported to the Chief of Staff of the U.S. Air Force on substantially all aspects of the current research and development activities of the Air Force. This was really a top-drawer assignment, working along with our associate dean of engineering here at M.I.T., Dr. Guy Stever. Arch has recently been elected a trustee of the Illinois Institute of Technology and is also serving as a member of the executive committee of the Armour Research Foundation. We'll have to look into the matter of another leading engineering school pirating one of our distinguished Alumni. Congratulations on these honors, Arch!

Recently I ran into John Bellizia, XV, and we flew to Washington together on one of the new Northeast viscounts. John and his family had just returned from a three-year tour of duty in Pakistan, where he was head of the sanitary engineering group in the Health Division of the International Co-operation Administration Mission. He told of many interesting experiences in leading the development of water supplies, the eradication of malaria,

and other sanitation measures which were so very different from those he had experienced with the Massachusetts Department of Public Health. John's wife and three daughters had a wonderful time over there. One of them got married on their return home. John has not quite decided whether to return to Pakistan and all the challenges and interesting living of that part of the world or to return to his position in Massachusetts, from which he had been on leave of absence. It must be pretty hard to settle down in this country with no servants after having six servants fall all over themselves for three years trying to run a rather impressive household.

Speaking of I.C.A., John B. Calkin, X, was kind enough to send me a copy of the September-October issue of *Percolator*, which contained the following note: "W. A. Kirkpatrick, X, until recently associated with Allied Paper Corp. as vice-president for research and development, left for Iceland on October 25 for the International Co-operation Administration (division of the State Department). Iceland, badly in need of a better export-import balance, desires a study made to determine if it can support a paper mill—probably one utilizing waste materials; they import some at low cost in their own shipping bottoms." I wish that others would send me notes of themselves or our classmates. I talked with John J. Brown, X, who is now a chemical engineer for the Badger Manufacturing Company of Cambridge. He was with them before the war but left after Stone and Webster purchased the company. Then he became chief engineer for U.S. Industrial Alcohol in Baltimore and later assistant chief engineer for National Distillers in Cincinnati. Now he is back home living in West Somerville and serving as project engineer on the new Dewaxing Plant being built for the Atlantic Refining Company in Philadelphia. This takes him away from home a great deal, but he still manages to get back for the Friday evening practice sessions at the Skating Club of Boston. John is an expert figure skater and takes part in the yearly presentation of the top-notch ice show in the Boston Garden called *Ice Chips*. I wonder how many of us old men could trip the light fantastic on figure skates in a first class ice show, even if we could skate still?

Rolf Morral, XIV, took his wife to Sweden in September and then presented a paper at an international conference in Stockholm. He is with the Cobalt Information Center at the Batelle Memorial Institute in Columbus, Ohio. This Center was represented at the Brussels Fair. Bennett Archambault was also in Europe on a business trip at just about the same time.

Frank R. Cook, XVI, writes that his company has moved to larger quarters located two blocks from the Municipal Airport in Denver. He invites all classmates to come see him when in town. His company has united with the Telecomputing Corporation of Los Angeles to give broader coverage to that field of electronics. It sounds as if Frank R. Cook Company is really going to town! —ROLF ELIASSEN, *Secretary*, Room 1-138, M.I.T., Cambridge 39, Mass.

Somewhere in the midst of E-11 almost 30 years ago (great Caesar's ghost tempus truly fugit) we learned to "organize" material for reports. Dutifully I've tallied the items for this issue and have had to stand off to take a second look to make sure all of these interesting jokers are really M.I.T. products. Here are some of the professions represented: raiser of Aberdeen-Angus Foundation Stock, Army officer, winner of a law degree, diplomat, Community Chest chairman, bank director, founder of a tutorial school, and real estate operator in the Bahamas (and wait 'til you read about this one!). No wonder there's a shortage of engineers.

For example, we feel sure others who read these pages (Kelly Geddes, Katharine Carman, Harry Summer, Dave Lee, and Bob Holt, to name a few) have an interesting note or two to share with the rest of the Class. We would really welcome word of your personal and professional activities.

Let's take our cattle man first; you guessed the name — Warren Henderson, a genial, comfortable, well rounded (no pun, Warren) friend of man and beast, who writes engagingly from his summer residence in Exeter, N.H. (see page 60 of the Class Record for further info on Warren's probable whereabouts as you read this). After a six weeks' trek through Europe last summer, Warren started reflecting in the afterglow of our 25th reunion and writes in part: "Have you noted that there are only eight classes that have donated to the Alumni Fund more than our Class has? I think that this is remarkable, when one considers that we were a depression class. We outscore the 1920-29 group, and that group are the presidents of companies now, if average age has anything to do with it. It is a real thrill to me to see how well the Class has done. And just think how it would be, were we all to pitch in to do a real job. . . . Many of our fellows thought the reunion to be the best that we have had, to date, and excellent, as judged by itself. . . . I want to be on record as saying that our committee did an outstanding job of preparation and execution of plans. No one person stands out as having done more than another, unless we mention Ed Goodridge. Gad, that guy really went to town. That book of his was one of the best jobs I have ever seen on any like occasion. My thanks, Ed, from the heart!" With all this praise, the committee would rise as a man and point out that Warren himself arrived at the reunion early and unobtrusively turned the right crank to make things run smoothly from start to finish. He may be a cattle man, but that's no bull!

Just to prove that we do have first-rate engineers in the class, we nominate Peter P. Alexander as man of the month for his honorary doctorate in science last June from Northeastern for his extraordinary skill in extracting uranium, thorium and zirconium by reduction of metal oxides into powdered metals, thus contributing vitally to the success of the United States' technical effort during World War II. We report two changes in locale: Colonel Francis MacDuff, now in

St. Petersburg, Fla., after serving a tour of duty in Europe. And Outerbridge Horsey (pause and take a look at him on page 66 of the Class Record; a man of true distinction—and that's not tap water we trust), who has transferred his cryptic address from A.P.O. #500, San Francisco to A.P.O. #94, San Francisco. From our scant knowledge of far Pacific geography, this still leaves Outerbridge somewhere between Hong Kong and Vladivostok, with a good set of oars. Hats off to Philip A. Coleman who took over the chairmanship of the corporation division of the Community Chest in Bristol, Conn., last fall. Phil is a vice-president of Accurate Brass in that city, having worked earlier for American Brass and Bristol Brass. We salute, too, John R. Farmer, who has been chairman of the Pembroke (Mass.) school committee and more recently has become a director of the Whitman Mutual Federal Savings and Loan Association. Jack spends his daylight hours as general manager and treasurer of New England Structures, Inc.

Now hear this! Walter V. Skees sends an extraordinary offer "to transfer a tract of brown land at Green Turtle Bay held by me under lease-option at any time within the next two years that my option runs, to any individual or club who might have use for the healthful climate, good fishing, and unexcelled beaches adjacent to this property. I would retain a portion of this tract for my own future residence; there would be no cost involved except small legal costs, about \$30 per acre, after a residence or club of \$8,400 value was completed. There is a good hotel, radio station, and other facilities including school, and so forth. Daily air service from Nassau, and weekly boat. One American doctor from New York has retired there in a new \$100,000 residence, and other American families have completed homes. Keep this in mind during the next two years." Walt continues: "I have a country place by the city of Nassau itself where I am frequently, and would welcome any Alumni interested in an overnight stay with me for a few words. (Round-trip air fare from Miami is \$36.00.) Advise me P.O. Box 906, Nassau, Bahamas, or P.O. Box 1173, Miami 7, Fla. My business is survey of undeveloped large tracts of lands exclusively, since resigning from the Geodetic Survey of Venezuela a few years ago." In behalf of all the class officers, we will gratefully accept the offer of any classmate who will take advantage of Walt's proposal, build a place suitable for annual reunions of the Class (preferably in March), and serve as host during such fiestas.

Returning to the real business of living and giving our sunburn a chance to subside, we note with pride that John Sbraga, who is an assistant professor of mathematics at Westfield State Teachers' College and former head of the science department at Holyoke High (Mass.), has been instrumental in establishing a tutorial school in Holyoke. Among other objectives, this school will help youngsters better to prepare themselves for college entrance, which as you doubtless know so well is increasingly difficult these days.

Last, but by no means least, we take special pride in Charley Cashman, who

earned his law degree last summer (and has been admitted to the Massachusetts Bar). Charley will continue his major engineering interest in Crocker Burbank in Fitchburg. — R. M. KIMBALL, *Secretary*, Room 3-234, M.I.T., Cambridge 39, Mass.

## 1934

I recently had lunch with Ed Sylvester at the Union Club in Cleveland and then my wife Margaret and I met with Ed and his wife, Betty. They live two blocks away from us in Shaker Heights, where they moved after approximately two years in South Africa. You will recall Ed was president of Griffith Carwheel Company, from which he resigned to set up a carwheel outfit in South Africa. This is still in the active process of being established, but in the meantime he has returned to Cleveland as president of American Ship Building. He is very active in the affairs of this company but also still retains a number of strings, some of them pretty substantial, in connection with his former operations. His oldest boy is at the University of Colorado in Boulder, a second boy is now at the Salisbury School in Connecticut, and a six-year-old daughter is at Hathaway-Brown in Cleveland. Ed, although silver-topped, is in great physical condition and looks as though he could last for almost three minutes on the hockey rink.

George Merryweather called me up recently and we sat together on a flight from Cleveland to Boston. He is active in the Cleveland company that bears his name and also has interests in the New England area. I gather that he is a frequent visitor to Boston and Cambridge. George has a delightful family whom I met one Sunday morning when I went to play tennis with George and some of his friends. He has a girl 14 who is at Hathaway-Brown and a boy, 9.

On a recent trip to New York I had dinner with Frankie Milliken and his wife Barbara. Frankie has been made executive vice-president of Kennecott Copper during the last year and is extremely busy with the far-flung operations of his company. They live in Darien, Conn. and have a 21-year-old boy at the Colorado School of Mines and another boy at Deerfield Academy. Frank does a lot of traveling, and I gather from Barbara that she accompanies him on a good many of his trips.

Robert C. Gunness, Executive Vice-president of the Standard Oil Company of Indiana, has been elected a trustee of the University of Chicago. Bob formerly taught at M.I.T. He joined Standard Oil in 1938 and became executive vice-president in 1956. Graydon Abbott, senior supervising hull architect for the Navy at the Fore River shipyard, has been promoted to the position of assistant chief design engineer and supervising naval architect at the Long Beach Naval Shipyard at Long Beach, Calif.

Three members of the Class of 1934 at M.I.T. have sons in the 1962 graduating class. They are: John B. D'Albora, Jr., of Titusville, Fla., with son John Matthew; Charles G. Glueck of Philadelphia, Pa., with son Charles, Jr.; and Warren

J. Kunz of Mattapoisett, Mass., with son Randall.

Publications: John C. Turnbull is the author of a technical paper which appeared in the September issue of the *American Ceramic Journal* entitled *Tension Stresses in Enamels and in Glass-Metal Seals in the Annealing Range.* John has been associated since 1945 with the Radio Corporation of America, where he is a glass technologist. Speeches: Walter Wrigley, Deputy Director of the Instrumentation Laboratory at M.I.T., spoke on "Astronomy in a Closet" at the Boston Luncheon Club meeting on Thursday, November 20; Arthur L. Conn, Director of the process division of the Whiting Research Laboratory of Standard Oil Company of Indiana, addressed the student chapter of the American Institute of Chemical Engineers at Northwestern University on October 14. He discussed what chemical engineers do in developing new processes in the petroleum industry, why they are suited for such work, and what the future challenges and opportunities are.

Mal Stevens reports from Cambridge that the reunion plans are progressing well and the committee is loaded with ideas and has the push to see them through. The early returns of the reunion book questionnaire were most encouraging, with about 100 coming back within two weeks of the mailing. If you have not sent yours back yet, please do so now. It is late but not too late. Charles Wright, editor, publisher in chief, and so forth, is hoping for pictures to make the book the best; but do not hold back on the written matter waiting for a picture. — JOHN A. HRONES, *Secretaries*: WALTER MCKAY, Room 33-217, M.I.T.; MALCOLM S. STEVENS, Room 1-139, M.I.T., Cambridge 39, Mass.; JOHN A. HRONES, Vice-president for Academic Affairs, Case Institute of Technology, University Circle, Cleveland 6, Ohio.

## 1935

Not too much news this month, so the notes will be short. William R. Weems has left M.I.T., where he was serving as director of the Industrial Liaison Office, to go back to Korea. He will again work with the Koreans in the field of education and industry. Dr. George E. Valley, Jr., has joined Melpar, Inc., at Falls Church, Va., as director of development planning. Formerly chief scientist, U.S. Air Force; professor of physics at the Institute; and later associate director of Lincoln Laboratory, he was widely known for his development of the SAGE aircraft radar warning system. John F. Keefe was recently appointed assistant manager of fares, tickets, and redemptions of the New Haven Railroad. He lives at 25 Adams Street, Holbrook, Mass., with his wife and five children. Brigadier General J. M. Colby has recently been made deputy commander of the Army Ordnance Missile Command.

It is with sorrow I note the death of Lawrence E. Hovik on March 27, 1958. Lawrence lived at 472 Portland Avenue, St. Paul 2, Minn.

Gerald C. Rich has been appointed manager of products engineering at

Sylvania Electric Products, Inc., Mountain View, Calif. Dr. Samuel N. Alexander was a contributor to McGraw-Hill's recent publication *Recent Advances in the Engineering Sciences*. Sam is the head of Processing Systems Division, Bureau of Standards.

Do not forget our 25 year gift fund; we will need all the help we can get to put it over. — FRANCIS W. MULDOWNNEY, JR., *Secretary*, 1109 Boylston Street, Chestnut Hill 67, Mass.

## 1937

A new year has started and I hope all members of our Class will resolve to write at least one letter, post card, or note to one of your class secretaries during 1959.

Joe Heal reports: "On returning home from a recent trip to Chicago with Marion, we had the pleasure of stopping off to see some of our classmates. We stopped over in Detroit with Jervis and Mary Webb. As might be expected in Detroit, the materials handling business is somewhat off; but on the home front the Webbs are expecting around Thanksgiving time. They recently moved into a large home and, as might be expected, have been very busy getting things organized. They love to camp and had lots of equipment about, along with two canoes in the garage. Late in the evening after a swell dinner at the Detroit Athletic Club, Jerv and I broke out some of our 1910 music hits and really made the walls vibrate.

"The next day we drove to Cleveland and put up close by Art and Agnes Zimmerman. Following a very nice dinner we were joined by Bob and Jane Harris. Art took some pictures for the sake of posterity, and then showed us a large number of colored slides of the 20th reunion. Art is a photographic bug and covered the reunion well from start to finish. He'll have them to show at the 25th. I also looked forward to seeing Ed Brittenham, the man mountain. Due to a last minute business trip he was unable to make it. I always stayed clear of him in wrestling, as I like living. He is chief engineer, I understand, at Goodyear Aircraft in Akron. Art Zimmerman has kindly taken over the vice-chairmanship of the Cleveland area, which was formerly handled by Dick Young. Dick recently sold out his dry ice business and has gone with the same company Art is with, Steel Improvement and Forge Company. Dick, I believe, is to be the South American manager for the branch or branches they are going to set up. Bob and Jane Harris are well situated and are looking well. Bob is with the Cleveland office of Mutual Boiler Insurance Company. He mentioned he had to get a new budget prepared, which reminds me I've got the same problem ahead on returning to work.

"From Cleveland we drove to Batavia, N.Y., which is about 30 miles east of Buffalo. In order to get oriented I phoned what I thought was the plant. Ralph's address is Chapin Mill. On calling Chapin Mill, I found myself talking with Sanna — Mrs. Chapin — instead of Ralph. The Chapins live in a converted grist mill alongside a man-made pond. The spillway that originally turned the water wheel for power is right alongside the house and

gives one the impression it is raining, which tends to lull one to sleep — as if we needed it with all our driving and late hours. The grounds and home were the most fascinating and quaint I have seen in a long time. The Chapins had asked George and Janet DeArment from Meadville for the night. They stayed in an attractive little guest house adjacent to the house. George is still running the Champion DeArment Tool Company and brought along some pliers and hammers. They are top quality — as I can assure you from using them. George is as dapper as ever and hasn't changed a bit. After a very lovely dinner the girls talked about whatever women talk about and Ralph, George, and I worked on plans for fund raising. Ralph Chapin, as you know, is chairman of the committee for solicitation of large gifts from individuals giving through companies. Ralph heads a family concern making all types of garden sprayers. The Chapins have many curios from the Far East, as Ralph lived in Hong Kong, India, and Africa before and during World War II. Their many experiences trying to get home would require more space than allowed for our notes."

A fine job of reporting, Joe, which sets a standard for all of us. Also, we all can see the time and energy that Joe is giving to the class gift program, which means that we cannot let him down.

Louis Bloom is with the General Electric Co., Atomic Power Equipment Department, San Jose, Calif., in purchasing, which requires him to travel all over the East. The Blooms — Louis and Grace with their two children — live in Richboro, Pa. Ray Dreselly is the senior superintendent engineer, Humble Oil and Refining Co., Baytown, Texas. Ray and his wife Nell live at 102 West Francis, Baytown, Texas. Martin Kuban reports: "No change, except we made an addition to our family on October 24, 1958 — tiny Miss Rondi Kuban." The Kubans, Martin and Lorraine, now have three children. Congratulations, Martin. Dave Summerfield accepted a position in October, 1958, with the Skil Corp., manufacturers of portable tools, as engineer in charge of motor design. Dave was formerly with the Sunbeam Corp. in the same capacity. The Summerfields — Dave, Harriet, and their two children — live at 240 Scott Street, Glen Ellyn, Ill. George Randall is the chief process engineer, Badger Manufacturing Co., Cambridge, Mass. George, his wife Grace, with their two children, live at Rolfe's Lane, Newbury, Mass.

Al Woll has served on the M.I.T. Educational Council during 1955-58 and starts again from 1958-61. Al, his wife Pearl, with their three children live in Evansville, Ind. P. William Bakarian has just been appointed president and general manager of the RN Corporation, 111 Broadway, New York. Bill was employed by Dow Chemical Company from 1937 to 1942 in metal development work. During World War II he was in the U.S. Air Corps, with special assignments on the War Production Board and in the United States — British technical co-ordination. He returned to Dow following the war for one year, and in 1946 he moved to Almag Engineering Company in Eng-

land as managing director. In 1952 Bill became chief, industry and transport staff, U.S.A. Point Four Program for Middle East; and in 1953 president of Cramet, Inc. The Bakarians—Bill, Helene, and their two children—live at 185 Whistler Road, Munsey Park, Manhasset, Long Island, N.Y.

Stuart V. Cuthbert has just been appointed engineer assistant to the vice-president of the American Machine and Foundry, 261 Madison Ave., New York City. Stuart and his wife Ruth have two children. Charlie W. Dodge is now at General Electric, Evendale, Ohio, as planning engineer on Nuclear Aircraft Engine Project. Charlie was with the Bell Aircraft, Niagara Falls, N.Y., from 1946-54 and then joined Stanley Aviation, Denver, Colo., until 1956. The Dodges, Charlie and Eleanor, have three children. Irv Tourtellot has been heading Alumni activity in Charlotte, N.C. Irv is connected with the Charles T. Main Co., a group of engineers, and is involved in a water distribution survey for the town of Gaffney, S.C. Irv and Louise have two sons, one of whom is attending the University of North Carolina while the other finishes high school this year.

In the Class of 1962 at M.I.T. is Robert A. Lytle, Jr., who is the son of R. A. Lytle '30 and the nephew of our Cliff Lytle. Robert is the closest relative of one of our Class who has been reported as attending M.I.T. It will not be too far in the future before one of the sons or daughters of one of our Class will be attending M.I.T. Which brings up our 25th reunion, and the fact that already Quentin Berg, Charlie Dodge, Stuart Cuthbert, William Bakarian, Al Woll, George Randall, Martin Kuban, Ray Dreselly, and Walter Sherry are making plans to attend our reunion in June, 1962. Let us know your intentions so that they can be reported to the Class.—ROBERT H. THORSON, *Secretary*, 506 Riverside Avenue, Medford, Mass., S. CURTIS POWELL, *Assistant Secretary*, Room 5-323 M.I.T., Cambridge, Mass. JEROME E. SALNY, *Assistant Secretary*, Egbert Hill, Morristown, N.J.

## 1938

We have an announcement that Richard Sargent Shirley is enrolled in the class of 1962. Perhaps this name would have more significance to you if I mentioned that Richard's father's name is Paul. Richard may not be the first offspring of a '38 man to enroll at the Institute, but I am not in a position to name any other. If someone wishes to claim a record, please get in touch with me.

A couple of other chemical engineers are also in the news. This summer Frank Knight was promoted to the newly created position of production manager for the Eastern Corporation. Frank is responsible for the operation of paper mills in Brewer and Lincoln, Maine, as well as two pulp mills. And at Esso Research and Engineering Company, Ollie Kangas has been promoted to operations manager of the products research division.

In July Frank Gardner left the General Electric Company in Pittsfield after 12 and one-half years of service to join Nu-

clear Metals, Inc., in Concord, Mass. The Gardners are now living in Wayland.

Gus Rossano, who is chief, state and community services, Community Air Pollution Program, for the Department of Health, Education, and Welfare was technical director of a special air pollution study in Louisville and Jefferson County, Ky. A detailed report of the work is now in preparation. In October Harold McCrensky was a speaker before the Providence chapter of the Society for the Advancement of Management. The topic of his talk was "Fast-Buckmanship." Many of the ills a company suffers in search of a quick profit can be avoided by the application of some long-range planning, according to Harold.

The Public Service Electric and Gas Company announces the transfer of Gifford Griffin from chief engineer, Sewaren Station, to chief engineer, Kearny Station. Gifford has been with Public Service since he left the Institute.

Gordon Stephenson has been nominated by the Alumni Association for the position of Alumni member on the M.I.T. Corporation Visiting Committee for the Department of Regional and City Planning. And now, if I get released from jury duty in time, we can have some class notes next month.—DAVID E. ACKER, *Secretary*, Arthur D. Little, Inc., 35 Acorn Park, Cambridge 40, Mass.

## 1939

Roy Heacock received publicity recently in Los Angeles when he was appointed general manager of the Cryogenics Division of Standard Steel. Before moving to the L.A. area, Roy was chief engineer with the Barbour-Greene and Axelson Companies in the Midwest. Two days before I telephoned him for a luncheon date and some 19 years since I had last seen Roy, he said he had just that week been thinking of me. It seems that Roy's son is learning to play the tuba, and the practice sessions at home reminded Roy of some bass notes which occasionally came out of my Sousaphone in Walcott, fifth floor, about 1935-36. How small the world is and how often coincidence such as this happens!

Art Zeldin and I had a very pleasant visit in Salt Lake City, where Art is doing research and development for Kennecott. Art travels a bit, too, on spot jobs and staff studies; he was just getting ready for a trip to the Baltimore area. Art and Helen and two daughters have been in the S.L.C. area for more than five years. We may be nominating Helen for an assistant secretary. While she graduated from Hunter, she has a tremendous memory and knowledge about her husband's classmates.

Art showed me a clipping from the Metals magazine, which reported notice of a speech on "Vacuum Degassing" which Mike Herasimchuk gave before the Lehigh Valley Chapter of the American Society for Metals. Mike, if you want to stay friends with us peddlers you'll have to stay away from subjects like that one!

Bud Venable is manager of a chemical plant in Denver which Dow operates for the Atomic Energy Commission. In the years since 1939, Bud has traveled widely and has worked at Oak Ridge, Los Ala-

mos, and Hanford. In-between times he has earned a shelfful of golf trophies, which I saw in his lovely home just outside Denver. Bud, Mary, and their four children live at 305 Zephyr Street, Lakewood, Colo., haven't seen many '39 classmates lately, and invite their old buddies to write.

This quickie set of notes is written at elevation 19,000 feet early in November as I travel eastward. I expect to see more classmates and give you some more news soon—after I get home and down out of the rarified atmosphere. In the meantime, have happy holidays and drop me a line when you can; and let's plan toward our 20th reunion this coming June.—HAL SEYKOTA, *Assistant Secretary*, 416 Calle Mayor, Redondo Beach, Calif.

## 1940

As usual, the Class of '40 has been active during the past month. Your Secretary had the occasion to talk with Wylie Kirkpatrick one of his visits to Boston and obtained the following information: "After leaving school, I went with Du Pont's explosives division in New Jersey and later near Louisville, Ky. Ran into Beano Goodman, who was in the Army and assigned to the same plant. Finally ordered to active duty for two dull years in the middle of Missouri, Kansas, and Tennessee and two good years in the middle of London, Paris, and Frankfurt. Picked up a master's and an A.B. at the University of Louisville, and went with Merck in production in Virginia, engineering in New Jersey, marketing in Missouri, and package development in New Jersey. Acquired a wife named Rebecca in the Virginia phase. Came back to Cambridge a couple of years ago with W. R. Grace's Cryovac (plastic films) operation and am planning manager of the Equipment Division at the moment. Main hobby is a small auxiliary sloop which pretty well keeps me from being able to afford any other hobbies."

Charles Booth has been promoted to the rank of temporary rear admiral. He is chief of staff to the commander of the Atlantic Fleet, Naval Air Force, at Norfolk, Va. Prior to that, he was commander of the U.S.S. *Ranger*. Oliver Fulton has joined General Dynamics as director of program research.

Tom Jones, who is on the faculty of Purdue University, was one of the speakers on a panel to discuss the "Role of the Laboratory Program in Engineering Education" held in Chicago on October 13, 1958.

Amos Joel, Jr., is the author of an article in the *Bell Laboratories Record* on "An Experimental Electronic Switching System." The article reveals the future method of operation of the telephone switching system, namely, electronically rather than by the mechanical motions of relay armatures.

James Gilman spoke before the 12th annual New England Conference of the American Society for Quality Control. His talk was "Quality Reports to Management." James is manager of Quality Control at the Bay State Abrasive Products Company.

The bachelor ranks of the Class of '40 are still diminishing. Val deOlloqui was

married on October 18, 1958, to Miriam Bellinger in Sweetsprings, W.Va. This is all the news we have for now, but possibly Val will find time to write a letter with more complete information.

Members of the Class of '40 continue to rise to the top in various organizations. Don Ross has become secretary of the Phoenix of Hartford Insurance Companies. Gerald McCaul has been elected active executive vice-president of Simmonds Aerocessories, Inc., manufacturers of aircraft accessories in Tarrytown, N.Y. Gerald was senior project engineer of General Motors' Allison Division for a couple of years and then served in the Air Force until 1946. He later became chief test engineer with Taylor Turbine Corporation and then was with the De-Laval Steam Turbine Company before joining the Simmonds Company 10 years ago.

Julius Molnar has been elected vice-president of the Western Electric Company, while Russell DeYoung has been elected president of Goodyear Tire and Rubber Company.

The trek back to Tech is continuing. Claude Shannon has been appointed Tech's first Donner Professor of Science. Tech's fourth endowed chair which is occupied by Claude was established as a \$500,000 grant from the Donner Foundation of Philadelphia. Claude is professor of communication sciences in the Department of Electrical Engineering and also is professor of mathematics.

Our age is beginning to show. "Life begins with '40" has been changed to "Life begins at 40." Arthur Lewis Harper '62, the son of Don Harper, is one of the first second generation '40 men to attend Tech. '40 can also claim indirect kinship to Jeffrey Rian Robinson '62, the nephew of Harold Robinson.

Want to see some news, write a letter. — ALVIN GUTTAG, *Secretary*, Cushman, Darby, and Cushman, American Security Building, Washington 5, D.C. SAMUEL A. GOLDBLITH, *Assistant Secretary*, Room 16-325, M.I.T., Cambridge 39, Mass. MARSHALL D. MCCUEN, *Assistant Secretary*, 4414 Broadway, Indianapolis 5, Ind.

## 1941

Dave Shapiro has been promoted to the position of engineering section head for systems integration in the Advanced Development Engineering Department of Sperry's Countermeasures Division. In this position he is responsible for coordinating various phases of the countermeasures program, both internally and with customer requirements. Dave joined Sperry in 1950 as a project engineer in the Special Weapons Engineering Department. During the following two years he designed and developed a radar simulator, prepared a report on detectors for missiles, and worked on a number of investigations related to missile system performance. He then left the company for a year, and on his return was assigned to missile system engineering. He advanced to senior project engineer in May, 1954, and to research engineer in November, 1955. Prior to joining Sperry, Dave had worked in radio and other electronic equipment. Also promoted was Walter Howell, who is now

manager of commercial, industrial, and agricultural sales for the Pacific Gas and Electric Company in San Francisco.

Bill Hooper is doing his part in civic affairs by serving as the chairman of the industrial division of the Danbury, Conn., Community Chest. Bill is general manager of the Etched Foil Division of Republic Foil and Metal Mills, Inc., in Danbury.

Austin Fisher, manager of business research and development for Arthur D. Little, Inc., of Cambridge, spoke on "Industry Aid to Education Program of the New England Council" before a combined meeting of the northeastern section of the American Chemical Society and the New England chapter of the American Institute of Chemists. The Boston section of the Institute of Radio Engineers heard Nathaniel Rochester of International Business Machines speak on "An Intelligent Machine to Solve Geometry Theorems." And, speaking before the American Meteorological Society's first national conference on the high atmosphere, Alan Shapley's subject was "The I.G.Y. Stimulus to High Atmosphere Research." Dr. Shapley is vice-chairman of the United States National Committee for the International Geophysical Year, National Academy of Sciences.

In an article in *Industry*, Harold Hindman '39 and George Burr discussed the history and present-day operations of Instron Engineering Corporation, which they founded in 1946. Contributing to the *Handbook of Physics* is J. Rand McNally, who provided an article on "Atomic Spectra, including Zeeman and Stark Effects."

*Tempus fugit*, gentlemen! Listed on the rolls of the freshman class at M.I.T. is Arthur L. Harper, son of Don '40 and nephew of Ray '41 — IVOR W. COLLINS, *Secretary*, 9 Sunnyside Drive, Dalton, Mass. HENRY AVERY, *Assistant Secretary*, Pittsburgh Coke and Chemical Company, Grant Building, Pittsburgh 19, Pa.

## 1942

The new year brings reports of interesting promotions and appointments. The General Electric Company has announced that Donald C. Berkey has been appointed general manager of the Jet Engine Department in Evandale, Ohio. Don has been working with turbines and jet engines ever since he graduated from the Institute. After completing General Electric's Advanced Engineering Program he worked in the Mechanical Research Laboratory and the Gas Turbine Department at Schenectady. In 1954 he moved to the Small Aircraft Engine Department as manager of preliminary design, later serving as manager of design engineering for the T58 Project. From October, 1956, until his recent appointment he has been manager of the applied research operation, Flight Propulsion Laboratory Department.

The Radio Corporation of America has just completed its first major plant facility in New England. Dr. R. C. Seamans, Jr., has been appointed chief engineer of this new installation, known as the Missile Electronics and Controls Department of R.C.A. As noted recently in these columns, Bob was formerly manager and chief systems engineer of the R.C.A. Boston Airborne System Laboratory.

Dr. Lloyd M. Trefethen has recently been appointed professor of mechanical engineering and chairman of the Department at the Tufts University College of Engineering. Until his appointment to Tufts, he was executive secretary to the National Science Board of the National Science Foundation in Washington, D.C. Dr. Trefethen received his bachelor of science degree from Webb Institute of Naval Architecture and then joined us at the Institute, where he took his master's degree in Naval Architecture. In 1946 he won a National Science Foundation fellowship to study at Cambridge University, and it was there that he received his doctorate. Among his many professional activities were service as scientific consultant to the Office of Naval Research at the American Embassy in London, executive secretary of the Naval Research Advisory Committee, secretary of the Office of Naval Research — Atomic Energy Commission Liquid Metals Committee, and professor in the Division of Applied Science at Harvard University. Professor Trefethen is a member of the American Society of Naval Architects and Marine Engineers, the History of Science Society, Sigma Xi, and the American Society of Mechanical Engineers.

A note from the Alumni Office tells us that Philip Richard Sheridan entered Tech this fall as a member of the Class of 1962. His parents are Philip E. and Natalie E. Sheridan, both of our Class. Young Philip is a graduate of the Cambridge High and Latin School and is now interested in Industrial Management. The elder Sheridans also have three daughters, the youngest of whom was just two weeks old at the time these notes were written. Philip Sr. is in real estate, and the family resides in Cambridge.

Herbert W. Stevens, city planning director for Cincinnati, Ohio, recently gave a talk, "Planning for Business and Industrial Development in Cincinnati." Mr. Stevens was previously planning director for Raleigh, N.C. Among the contributors to *Handbook of Physics* was Lawrence Aller, who wrote a section on "Atomic Line Strengths"; many other Tech Alumni were contributors to this very important handbook edited by Dr. E. U. Condon and Dr. Hugh Odishaw.

An announcement from the U. S. Gypsum Co. tells us that Mortimer P. Reed has been appointed publicity manager. Mr. Reed previously was editor of *Popular Home* magazine, and before that he was project director in the Publications Department of U. S. Gypsum.

A note from Ted Eliot tells us that the family is nicely settled in Baytown, Texas, but that they are still trying to sell one extra house in Brownsville. Any inquiries will be immediately acknowledged and any customers will be enthusiastically received.

We report with deep regret the death of Navy Captain William W. Brown, who took his master's degree in Naval Architecture with us. Captain Brown was most recently stationed at the U. S. Navy Engineering Experiment Station in Annapolis.

The long distance move of the month was by Captain William C. Fortune, El Segundo, Calif., to join the Navy Bureau

of Aeronautics in Washington, D.C. George C. Holladay, Jr., is now with the Weather Bureau at the Philadelphia Airport. Albert B. Root, 3d, is now living in Newark, Del. Howard L. Plant has moved to Fairfield, Ohio. Bernard J. Driscoll is now living in Washington, D.C. John D. Rogers has moved to Bryn Mawr, Pa.

Very best wishes from your northern Secretary for good skiing. Ed Edmunds and J. J. Quinn send theirs from sunny New Mexico and California respectively. Bob Keating sends his from East Alton, Ill. — LOU ROSENBLUM, *Secretary*, Photon, Inc., Cambridge, Mass.

## 1943

Hank Tiedemann's picture stared at me yesterday from the pages of the *New York Times*, startling me into the performance of my duties as one of your secretaries. His firm, H. M. Tiedemann and Co., was featured in an article because of its unique approach in the shipping and naval engineering fields in combining the theoretical sciences and practical operations. Hank describes his work as "value engineering," whereby they take a client's idea, apply theory to it, weigh it against practical experience, and then do an economic analysis to find out whether it would be a paying business proposition. The firm, located in New York, was formed by Hank and a former associate of his at the Grace Line, Henry Hostrup, in March, 1957.

Carleton Bryant, a commander in the Navy, was appointed planning and design officer at the Navy's Quincy shipyard in August, 1958. He heads the naval architectural, electrical, mechanical, and allowance engineering sections as design and planning officer. He had been with the Bureau of Ships for many years prior to this, and now lives in North Scituate, Mass. Bob Lichten has been appointed to the M.I.T. Educational Council in Dallas, Texas, where he is chief exploration project engineer for Bell Helicopter. Mr. and Mrs. William Verrochi became the proud parents of a new daughter, Kathryn Joan, on October 31, 1958.

Bill Selke of Stockbridge, Mass., research director of Peter J. Schweitzer, Inc., spoke at the Lee Parent-Teachers Association kickoff meeting in October on "Are Our High Schools Meeting the Space Age Challenge?" I'm sure he was well qualified for this talk, having taught at Columbia for the past five years. Virgilio Barco was appointed minister of development in Colombia when a new government took office in August, 1958. Virgilio took his doctor's degree in Economics at Tech a few years ago. In this cabinet post he is in charge of government policy concerning improvements in transportation and communications, among other things.

Turning to fellows who did graduate work with our Class, we have news that Elias Burstein was presented an annual science award of the Naval Research Laboratory Branch of the Scientific Research Society of America last year for his pioneering work using infrared radiation to investigate the fundamental properties of semiconductors. Retired Navy Captain Lewis A. Rupp has been ap-

pointed vice-president and general manager of Ionics, Inc., of Cambridge, Mass. D. Bruce Henderson was promoted to captain, U.S. Coast Guard, last summer. He is assistant head of the Academy Engineering Department in New London.

Sincerest wishes to all for a pleasant New Year, and we hope you resolved to keep your secretaries up to date on your doings. Feel free to write to us at the addresses listed here. — RICHARD M. FEINGOLD, *Secretary*, 49 Pearl Street, Hartford 3, Conn. JOHN W. McDONOUGH, JR., *Assistant Secretary*, R.R. #1, Donwood Drive, Naperville, Ill. CHRISTIAN J. MATTHEW, *Assistant Secretary*, Arthur D. Little, Inc., 314 Battery Street, San Francisco 11, Calif.

## 2—'44

Your Secretary has been busy working on the 15th reunion of 2—'44, so he has asked me to pinch-hit for him. Incidentally, by the time that this is published, it will be only five more months to the reunion at Cape Cod. I know that there has been a good deal of work on the arrangements. The two most interesting items that I have seen on the plans are that baby sitters can be arranged for in advance and that the Tech dinghies will be available for the hardy sailors. The committee appears to have all bases covered.

A number of the members of the Class were in the newspapers last December. Reverend Robert L. Meier, who had been minister at the Lordship Community Church in Stratford, Conn., accepted a call as associate minister of the First Church of Christ, Congregational, in West Hartford. By now the Reverend Mr. Meier, wife Dorothy, and two children should be happily settled in West Hartford.

A short note advises that Louis W. Maxson, with Western Brass Mills Division of Olin Mathieson, was promoted from supervisor of mill engineering to superintendent of mill products engineering. Possibly this is one of the reasons for the steady rise in Olin Mathieson stock lately. Also in the vein of catching up, received a note that Dr. Paul Talalay, who is associate professor of biochemistry, Ben May Laboratory for Cancer Research at the University of Chicago, was awarded the Theobald Smith Award in Medical Sciences. Dr. Talalay and his colleagues have been engaged in unraveling the mysteries of biochemistry of steroid hormones and in particular male and female sex hormones. These hormones exert enormous influences on a variety of functions and the growth of certain cancers.

Another award winner in the Class is Dr. Bruce P. Bogert, presently with Bell Telephone Laboratories in Murray Hill, N.J. Dr. Bogert received the Biennial Award of the Acoustical Society of America for his substantial contributions to the science of acoustics. His most recent investigations have been in the fields of physical acoustics and speech transmission.

A note which came in from Waterville, Maine, advises that that town is one family larger as a result of the promotion of George M. Barr to general manager of Skow Moccasins, Inc. Also note that the

fair city of Pittsburgh has gained a family — the Warren Howards — which is a loss to Lynchburg, Va. I am told that Warren is now with Morgan Construction Co. of Pittsburgh, having moved there sometime last July. A couple other address changes have taken place. Bob Peck has moved to Westport, Conn., where he has charge of relations with Johns Manville, industrial insulation contractors. He reports a daughter, Susan, and a son, Stephen. John M. Waters advises he is now located in Portsmouth, Va., as a shipbuilding and repair superintendent at the Norfolk Naval Shipyard.

In the news are a couple of graduate students who are part of our Class. First is Nicholas J. Grant, who took his doctor's in Metallurgy in '44 and is now a professor at the Institute in Course III. He was one of the party who guided 13 Russian steel experts through Tech while they were here as guests of the American Iron and Steel Institute. Thanks to Professor Grant's ability in Russian, the translators had an easier time of it while he was touring the guests around. Also with a foreign flavor, Douglas B. Smith of our Class is working diligently down in Puerto Rico as director of the Department of Economic Research in Operation Boot-Strap. From the articles in the papers, it would appear that Smith really has a job cut out for him.

Our Walter W. Turner was the opening speaker at the American Institute of Electrical Engineers 1958-59 opening meeting in Bangor, Maine. He spoke on "The Why and How of Feedback Control." Walter is a professor at the University of Maine and has initiated both undergraduate and graduate courses in feedback control. At the 36th annual fall meeting of the New England section, American Society for Engineering Education, C. Richard Soderberg, Jr., took part as a member of a panel on "Humanities Program Developments."

The *Ansonia Sentinel* advises that John B. Gardner has been appointed assistant chief engineer of The Kerite Company. He has been with the firm as an electrical engineer since 1947. The article goes on to state that John, his wife and two children, live in Bethany, Conn., where he has been quite active in mountain climbing. A note from McGraw-Hill Book Co. advises that among the contributors to *Handbook of Physics*, edited by E. U. Condon, is Robert D. Arnold who, along with R. E. Wilson, contributed an article on "Thermometry and Pyrometry."

As of this writing Cuba hasn't elected a new president, and there is controversy over how this is to be done. However, the M.I.T. Club of Cuba has taken care of this and elected Rafael Laredo of our Class to be their president for the coming year. He's with Liquid Carbonic in Havana. Not long ago I was out in Rochester, and I found that Arnold Mackintosh, Jr., is secretary of the Rochester M.I.T. Club. He's with Eastman Kodak and is happy to greet other classmates who may travel to that fair city.

Recently ran into Robert E. Benedict in the nearby community of Fanwood. He is with American Export Lines, working along the lines of marine transportation that he took in XIII. He, wife Dorothy, and three children live in the little town

of Oradell, which is a short commuters' run to New York City, where he works.

Working on these notes brings out the fact that your poor Class Notes Editor is having a difficult time. Very little information seems to come from the Class directly, so he must rely on clippings from various news services. How about sitting down this evening and dropping me a note on your activities, or those of some member of the Class?

One parting blast: don't forget to start planning to be at the class reunion which is to take place at the Chatham Bars Inn, June 12 to June 14. See you there!—PAUL M. HEILMAN, *Temporary Secretary*, 616 Forest Avenue, Westfield, N.J. BURTON A. BROMFIELD, *Secretary*, 72 Woodchester Drive, Weston, Mass.

## 1946

At the Eastern Joint Computer Conference and Exhibit held in Philadelphia in December Frank M. Verzuh was chairman of the opening session and Wallace J. Dunnet, along with two fellow employees from Sylvania Electric Products, Inc., spoke on "Analysis of TRL Circuit Propagation Delay." M. Russell Hannah, who is engineering section head for mechanical design in the Missiles Engineering Department of the Air Armament Division of Sperry Gyroscope Co., had a paper entitled "When to Use a Hot-Gas Servo" published in the September issue of *Applied Hydraulics and Pneumatics*.

Ali B. Cambel is coauthor of a McGraw-Hill book entitled *Gas Dynamics*, which was written to serve as both a textbook and a reference volume and is an outcome of courses presented at the State University of Iowa and at Northwestern University. Ali is professor and chairman of Mechanical Engineering, Gas Dynamics Laboratory, Northwestern University. Dr. Thomas F. Malone, Director of Research at the Travelers Insurance Companies, has been appointed vice-chairman of the research committee for the Greater Hartford Community Chest campaign. Tom received a B.S. degree from South Dakota State School of Mines and Technology and a doctorate of science from M.I.T. He joined the Faculty of M.I.T. as a research assistant, became an instructor, then an assistant professor, and finally associate professor of meteorology. When Travelers opened its Weather Research Center in 1955 he became its director, and he was promoted to director of all research in 1956.

Dr. Robert B. Davis was married to Miss Rose M. Garcia in New York City on September 14, 1958. Mrs. Davis is a graduate of Cornell University and New York Hospital School of Nursing and received a master's degree in nursing education from Teachers College, Columbia University. Bob received his S.B., S.M., and Ph.D. degrees from M.I.T. He taught at M.I.T. and the University of New Hampshire before becoming an associate professor in charge of mathematics education at Syracuse University. The last address I have for Bob, accurate as of April, 1958, is 441 Maple Street, Syracuse 10, N.Y.

John A. Gautraud is assistant director and project manager of inertial systems at

the Instrumentation Laboratory at M.I.T. He received his S.M. from M.I.T. in 1949 and has been with the Lab since then. John is married, has two children, and lives at 26 Fairbanks Road, Lexington, Mass. He is active in civic affairs, having been president of the Boston Junior Chamber of Commerce in 1954-55. Wes Goodnow has until recently been plant engineer of the Wright Hoist Division of American Chain and Cable Co., where he was key man in planning and executing the modernization and expansion program recently developed. He has just been appointed staff engineer in the Design Engineering Department and also secretary of the New Product Development Committee. Wes lives at 1460 Hollywood Parkway, York, Pa., and has just been elected President of the York chapter of S.P.E.B.S.Q.S.A., Inc. (singing barbershoppers).

Stuart Grandfield is manager of the contracts office of Raytheon's Bedford, Mass., laboratories. The Grandfields live at Peach Orchard Road, Burlington, Mass., and have two daughters aged 10 and 7 and a one-year-old son. Stu is a member of the board of appeals in his home town. Eric G. Newberg, Jr., is a commander, U.S. Navy, and is assistant program director, nuclear applications, at the Bureau of Ordnance of the Navy Department, Washington, D.C. He makes his home at 6712 North Williamsburg Boulevard, Arlington 13, Va. His previous assignments have been naval inspector of Ordnance, Scranton, Pa., 1951-53; and officer in charge, U.S. Navy Central Torpedo Office, Newport, R.I., 1953-55. In 1957 he completed a course in management problems for executives at the University of Pittsburgh. He is national vice-president and on the board of directors of the Armed Forces Management Association. Frederick J. Ross, Jr., is manager of Ceramic Fiber Project, Carborundum Co., Niagara Falls, N.Y. The project manufactures and sells FIBERFRAX—ceramic fiber high-temperature insulation for industrial furnaces, jet aircraft, and missiles. The project is a complete operating unit of Carborundum. Fred is married, has three children, and lives at 139 Dorset Drive, Kenmore, N.Y. Robert L. Hall is a senior development engineer working on advanced product development at the Aircraft Accessories Turbine Department of General Electric Co. in Lynn, Mass. Bob lives at 2 Tully Road, Marblehead, Mass.

Edward W. Richardson is plant engineer and a director of Richardson and Robbins Co., a well-known canned chicken and chicken products concern. Ed's job covers practically all the problems associated with operation of the plant with special emphasis on machine design. He is married, has two girls 11 and 9, and lives at Woods Manor R.D. #1, Dover, Del. He is active in the U.S. Naval Reserve and is executive officer of Surface Division 4-1(M) in Wilmington, Del. Gilbert B. Devey has recently been promoted from co-ordinator of magnetic components to product manager of the Special Products Division of Sprague Electric Co. in North Adams, Mass. He is responsible for marketing and technical sales, largely to the computer industry. He is married, has two boys aged 11 and 7, and lives at 160 Main Street, Williamstown, Mass. Morris A.

Chomitz is chief chemical engineer of The Kuljian Corp. in Philadelphia, an architect-engineering and construction firm. Morris is married, has two children, and lives at 7213 Mansfield Avenue, Philadelphia 38, Pa. Stanley H. Rice has recently been promoted to commander, Coast Guard, and is chief of the Merchant Marine Technical Section of the 8th Coast Guard District. The Rices have one son and make their home at 1571 Calhoun Street, New Orleans 18, La. Happy new year. — JOHN A. MAYNARD, *Secretary*, 15 Cabot Street, Winchester, Mass.

## 1947

Happy new year, you all!! Your Correspondent's first resolution for the year is to endeavor to put a few more articles in *The Review* than last year. It's been quite a while since my last missive; and from the comparatively few messages I've received from the members of the Class, I guess I haven't been too sorely missed. At any rate, there's quite some news in the sack, so here goes.

Among those who have received promotions or transfers in business in the last five months are Ed Engle, who is now buildings engineer of the Central Engineering Section of the Bell Telephone Company of Pennsylvania; and Arnold Varner, who has left General Electric in Louisville, and is now plant manager for Capac Industries in Capac, Mich. His firm manufactures reinforced thermosetting products. Barry Brown has been appointed technical manager of the Phosphorus Division of the Hooker Chemical Corporation, located at Jeffersonville, Ind. I believe that Barry is one of the few members of the Class who have been with only one employer since graduation; he was living in Snyder, N.Y., with his wife and his two sons, when he received his promotion. Hayden Ringer is now manager of Philco Corporation's Advanced Weapon Systems Group, located in Philadelphia, even though he lives across the Delaware River in Palmyra, N.J.

Bob Whorf has formed his own research and consulting firm in Norwalk, Conn., and plans to specialize in industrial product planning and market analysis. Colonel John G. Zierdt is one of six officers recently chosen to fill key positions at the Redstone Arsenal in Huntsville, Ala. Academic advancements include Loring Mitten, who took an advanced degree at Tech and who was recently appointed assistant professor at Northwestern University. At our neighbor college up the Charles both Jim Justice and Tony Quesada received advanced degrees last June. Commander Ken Tebo, who obtained a master's in Course XVI, has been promoted to the rank of captain and was reassigned to the Navy Research and Development Center in Washington. Harold Brodsky, Course III, has been appointed by the mayor of New Britain, Conn., to the disposal commission of that city; Harold is presently assistant superintendent of the Fafnir Bearing plant in New Britain, Conn. R. Brooke Pietsch has been appointed an educational counselor by the Institute, and will cover several high schools in the Baltimore area; he is presently head of the Technical Department

of the Esso Standard Oil Company in Baltimore. Incidentally, this type of Alumni work as a member of the Educational Council is most rewarding, and your Correspondent would heartily recommend it to any alumnus who wants to do his bit for M.I.T.—for additional information, contact the secretary of your local M.I.T. Club. Robert F. Danner has been appointed production manager of the Government Manufacturing Plant of the Raytheon Manufacturing Company of Cambridge.

An interesting note from one of our older Alumni was received concerning Bob Porter, who attended an informal M.I.T. outing on Formosa, whither he had flown to look over a dam site for the J. A. Jones Company, his employer. I haven't heard whether work has been started on the dam, but Bob really had a fine time at the outing! Hy Fisher, who decided to become an M.D. after getting a master's in Course X, is now in practice in Livingston, N.J., as a pediatrician. Hy spent his last year of residency in Hawaii, at Queens Hospital, and I had the opportunity to see him when he passed through Los Angeles on his way east; he's married and has a little boy less than a year old. Also early in the summer I received a note from John Kellett, who's head of the International Business Machines 704 group at Esso Research in Linden, N.J.; he advised me that Rufe Franklin's dad passed away. Rufe was with Behr-Manning the last I heard, and attended the 1957 reunion.

Herb Locksley has been appointed chief resident neurosurgeon at Tulane University Hospital in New Orleans; he is married and has two children. One of the boys is the proud uncle of a member of the Class of '62: Joe Kleiman's nephew, Steven, has entered M.I.T. for undergraduate study. However, lest it be thought that Joe is such a good example, Steve's father is a member of the Class of '35. Walt Weeks advises that he is now a market development specialist for Remington Arms in Bridgeport; his comment is: "Still one wife, one son, one dog." Scott Hoehn of Miami and '47 had a half-page spread in the *Miami News* during the summer for taking his six-month-old daughter Merry to swimming class—the baby learned how to float quickly, according to the article, with little assistance. No pictures of Scott, but the baby's beautiful.

Hanford Willard has spent some time recently in France "helping the French auto producer SIMCA to reorganize and to introduce controllership." He further writes that the job took three years; and from the sales results that this car has shown here, he evidently did a good job. He also states that he'll be at the '59 reunion.

In the reunion vein, the following were at Tech in June for Alumni Day: Bob Aquadro, Hal Brown and wife, Dave Clapp and spouse, Mr. and Mrs. Carl Eymann, Mort Loewenthal, Jim Phillips, Jim Powell, Jack Rizika, Mr. and Mrs. John Ripley, Vic Savchuk, Ed Sullivan, Harl Aldrich, and Alex Ward and wife. At the Packaging Show in New York, Dick Mooney and Milt Robins stopped at the booth which I was attending. Dick is now director of sales promotion in the Petro-

chemical Department of the Continental Oil Company in New York and is presently residing in Summit, N.J., with his wife. Milt Robins had his own booth, as he has manufactured a tester for aerosols in cans, which can be installed in production lines of these products. His firm is the Robins Engineering Company and is located in North Haven, Conn. Coincidentally, I ran into Milt and his wife here in Los Angeles, during the summer, in a delicatessen—he was out here on a business trip. Alex Bohr, who is presently with Reaction Motors in Rockaway, N. J., has developed a strap-on anti-gravity device which enables the wearer to run fast, jump high and far, and would be a most interesting item for the foot soldier. Details are unavailable, but it would certainly be a boon to the Harvard Bridge walkers when the temperature gets low and the winds get high.

The Class of 1947 was well represented at many of the technical meetings and symposiums during the past months. Jerome Lettvin suggested that insect parts be used as instruments to detect and report biological information in space vehicles at an M.I.T. symposium in May. Also in the space vein, Dick Wentink authored an article entitled "Booster Propulsion for Space Vehicles" in a recent issue of *Aero/Space Engineering*. Among the contributors to *Handbook of Physics* are the following classmates: Gerry Landsman coauthored an article on "Control Mechanisms," and Herb Callen wrote one on "The Energy-band Theory of Solids." John Truxal edited the latest issue of *Control Engineers Handbook*, published by McGraw-Hill. John is presently head of the Electrical Engineering Department of Brooklyn Polytechnic Institute. John Mather presented a paper about the environmental factors concerning water loss from soil, a subject which needs to be understood in order to figure irrigation schedules for large-scale crop production; this paper was presented at the 170th national meeting of the American Meteorological Society at New Haven, Conn. At a Denver, Colo., meeting of the same group, Carl Jenkins presented a paper on weather forecasting using data processing equipment.

At an Institute of Radio Engineers meeting in Dallas, in October, Victor Azgapatian spoke on one phase of radio wave simulation. At the New England section of the Institute of Radio Engineers, Jordan Baruch and Sam Mason were keynote speakers at dinner meetings during the conference. Dr. Mason, in addition, has given several speeches on engineering writing and speech in other areas of the East. Ed David presented a paper at the Western Electronics Conference on the coding of speech and pictures and the simulation of transmission devices by means of a computer. Ed is working at the Bell Laboratories in New York. Les Coughanour collaborated on a paper on ceramics, which was published in the *American Ceramic Society Journal*; and Don Harleman, in conjunction with two other scientists, wrote an article which appeared in the *American Society of Civil Engineers* proceedings.

There is a long list of address changes, which I shall save for next month.—

ARTHUR SCHWARTZ, *Secretary*, 8626 South San Pedro Street, Los Angeles 3, Calif. P.S. Don't forget to send your check to the Alumni Fund.

## 1948

Printing and binding of the Class of '48 Tenth Year Profile book has been completed. Copies are now being mailed to presubscribers and extra copies have been prepared for immediate delivery to additional subscribers.

Some of the statistical correlations include the interesting relationship of income to the number of jobs each classmate has held; the striking relationship between churchgoing and political attitude; and Mr. '48's opinion of the technical resources of the U. S. versus U.S.S.R. Additionally, eight charts dramatize the statistical analyses and over 700 biographical sketches include current mailing addresses.

Although printing costs have been contributed by Norman H. Kreisman '48, Vice-president of Isaac Goldmann Company, Inc., expenses are yet to be balanced against subscriptions. You may order your copy by sending a five dollar check to M.I.T. Class of '48, c/o H. S. Kindler, 128 Elatan Drive, Pittsburgh 16, Pa. Any surplus which accrues will be donated to the Alumni Fund as a Class gift.

I enjoyed meeting several classmates during the Instrument Society of America's annual Instrument-Automation Conference and Exhibit in Philadelphia during September. By Tuesday of the week-long show your Assistant Secretary reached the Fenwal Electronics, Inc., exhibit booth—but Class Agent Ken Brock had already dashed home. The attraction that home held for Ken was soon learned. On October 11 Miss Anne L. Hunt, graduate of Pembroke College, became the bride of Kenneth S. Brock in North Abington, Mass. Following a wedding trip to Bermuda, the newlyweds will live in Brookline. Bernie Gordon helped man the large Epsco exhibit at the I.S.A. show with an assist from his lovely wife Shirley. You may recall that *Esquire* magazine named Bernard M. Gordon as one of the leading 16 "Bright Young Men In Business" in this country in recognition of Bernie's achievements as President of Epsco, Inc. Another electronics manufacturer at the I.S.A. exhibit this fall was Jay Salz, partner of Trio Laboratories, Inc., who said his firm had outgrown their present facilities and recently moved to larger quarters in Plainview, Long Island.

At other technical conferences around the country we find considerable activity from men of '48. Richard L. Webb, now a physical chemist at the Stamford Laboratories of American Cyanamid Co., reported on the use of X-rays on various chemical compounds at the second International Conference on Peaceful Uses of Atomic Energy in Geneva. William J. Weisz of Motorola reported on transistors in communication at the December vehicular communications conference of the Institute of Radio Engineers in Chicago. Irwin L. Lebow, with M.I.T. Lincoln Laboratory, participated in the Eastern Joint Computer Conference and Exhibit with a paper on design techniques for computers in Philadelphia in December.

R. R. Heikes of Westinghouse Electric Corp. in Pittsburgh addressed the Electrochemical Convention with a paper on "Design of Thermoelectric Materials for Power Generation and Refrigeration."

Several promotions were reported this month. Robert T. Ellsworth, Jr., was named technical assistant to the manager of Advanced Systems Research at the Owego plant of the International Business Machines Corporation. Bob, his wife Rita, and their three children currently are living at 67 Kneeland Avenue, Binghamton, N.Y. Milton Roy Company directors elected Paul Gibian to the post of vice-president of manufacturing. Paul will be responsible for purchasing, product engineering, and manufacturing of controlled volume pumps and chemical feed systems. The Gibians live in Conshohocken, Pa., with their three children. Phil Naber has been appointed as general manager of the Howell Instrument Company. Phil previously was associated with Booz, Allen and Hamilton, the management consulting firm. The Nabers and their three children live at 3220 Preston Hollow Road in Fort Worth, Texas. In addition to the above promotions, all in instrumentation firms, Dr. Myron G. H. Ligda has been named head of the newly created Radar Aerophysics Group at Stanford Research Institute to conduct applied research in radar meteorology. Colonel Charles C. Noble has assumed the post of operations officer of the U.S. Army Infantry Center at Fort Benning, Ga. The Nobles have five children. David W. Brown of Elm Grove, Wis., is now construction marketing manager for Blackhawk Manufacturing Company.

In the outstanding technical achievement department we have Dr. Bruce Kline, who has discovered a new process for making glutamine which — according to his employer, the Eli Lilly Co. — will spur research using this amino acid which scientists believe can be effective in the treatment for epilepsy, mental deficiency, alcoholism, and peptic ulcers. The Klines live in Indianapolis with their two sons.

We always enjoy reporting another marriage. Samuel Lewis Russell married the former Miss Polly Wedgewood Paradise at Andover. The bride is a graduate of Abbot Academy, Mount Holyoke College, and Hartford Hospital School of Nursing. We must also report the death of Carl Thomsen of Cranbury, N.J., in May. A final item is the revision of Professor Emeritus W. H. Timbie's book *Basic Electricity for Communications* by classmate Francis J. Ricker, currently with the Foxboro Company. — HERBERT S. KINDLER. RICHARD H. HARRIS, *Secretary*, 26 South Street, Grafton, Mass. HARRY G. JONES, *Assistant Secretary*, 94 Oregon Avenue, Bronxville 8, N. Y. HERBERT S. KINDLER, *Assistant Secretary*, Instrument Society of America, 313 Sixth Avenue, Pittsburgh 22, Pa. ROBERT R. MOTT, *Assistant Secretary*, Box 113, Hebron, Maine.

## 1950

By the time this copy gets into print the majority of our classmates will be in the throws of Old Man Winter; and in order to bring a little sunshine into your winter, let's see what our regional secretaries from

the South Atlantic States have to report. First from John MacMillan, 4623 Golf Park Drive, Lynchburg, Va.: "Let me clear the record by bringing everyone up to date on the activities of the MacMillans. My harem and I (my wife Kay and my three daughters, Lynn, Claire, and Kathy) are presently living in Lynchburg, where I am employed with the Atomic Energy Division of the Babcock and Wilcox Company. We are keeping busy with the construction of a new house, which should be finished about the time that Santa Claus appears on the scene. We have lived here for almost a year and a half since leaving Seattle and the great Pacific Northwest. At that time I was working for the Boeing Airplane Company. Howie (Lars) Larsen has finished his Ph.D. from the University of Illinois and has been working in the Polychemicals Department of Du Pont. He and his wife, Helen, are busily engaged in the varied activities of home ownership, and are enjoying their one-year-old son, Bryce. There is no news on R. J. Dzikowski of Hampton, Va., except for his business address, which is in care of Supervisor of Shipbuilding, U.S. Navy, Newport News, Va.

"I. William Millen of Arlington, Va., has been married two years to Diane Waxler of Brookline, Mass. He spent six years in research and development and then transferred to the U.S. Patent Office, where he is a patent examiner. Bill has wandered from chemical engineering, or has seen the light (editorial comment), into the field of law, having recently received his LL.B. from George Washington University. He is now a member of the Virginia Bar. Captain Roy E. Hale, Jr., Fort Washington Forest, Washington, D.C., is a captain in the Air Force, married with three children, and is presently assigned to the Directorate of Astronautics of the Air Research and Development Command. Roy received his master's degree in Aeronautical Engineering last August from the Air Force Institute of Technology. H. L. Barnes, Geophysical Laboratory, Washington, D.C., has completed his Ph.D. in Geology from Columbia this past June. As a matter of interest, he would like to know what percentage of our Class has gone on to complete their Ph.D.'s. R. D. Lemmerman, Gibson Island, Md., is presently manager of the Industrial Sound Control Department of Koppers Company in Baltimore. He and Peg have only five children, four girls and one boy."

And a few notes from John's southern sidekick, Jim Hooper, Hooper Motors, Inc., 625 Florida Avenue, Cocoa, Fla.: "Tom Furlong, who resides at Pensacola, Fla., tells of his recent election as chairman of the Northwest Florida section of American Society of Mechanical Engineers. He previously served two years as vice-chairman. Jack Pines has a new address in Winter Haven, Fla. He is general manager of Phillips Groves and Real Estate with offices in the Phillips Professional Building. Jack is also operating his own real estate business there in the heart of the Florida citrus region. Captain Frederick Hafer was a full-time graduate student on duty with the Air Force while at Tech, graduating in February, 1950, with an S.M. degree. After Tech he spent seven

years in nuclear weapons work and is now at Cape Canaveral as a project officer in Range Development for radar and airborne instrumentation."

Now back to the snows of New England, where Les Allison is taking care of part of the New England region: "Les Allison, 23 Grant Avenue, Old Greenwich, Conn., stayed at M.I.T. for a master's and then for two more years working on the Administration in the Industrial Liaison Office. Joined forces with Peggy Bowers (Wellesley '50) in 1953 and with Olin Industries in New Haven, Conn., later the same year. Five years later, almost to the month, I am still with Olin, now grown into Olin Mathieson. I have logged time as a market researcher and administrative assistant and now, having forgotten all my engineering, I am a nuclear engineer. We live in Old Greenwich, Conn., where we moved while I was in the New York office; and I am a wrong-way commuter from Old Greenwich to New Haven. Two daughters, a dog, and a cat grace our house. At Olin we are in the business of making nuclear fuel elements for Admiral Rickover's Navy. I was interested in Chuck Herbert's comments in the June Review about his work at General Electric in San Jose. I am sure we know many people in common, as much of my working day is spent with General Electric people from Knolls Atomic Power Laboratory where, incidentally, Dick Mathews will work when finished with his thesis. With me in the Nuclear Fuel Division are Jack Jacoby, XV, '50, who has been with Olin longer than I, and Ted Mea, XV, '50. Jack is in Production Control and Ted in Purchasing. Jack lives near here in Stamford, Conn., and we ride to New Haven together daily. Ted lives in Northford, Connecticut.

"Sterling Brisbin, Course I, writes from very near by. He has just moved from Stamford, Conn., to a new home in Lewisboro, N.Y., upper Westchester County. Bris is still with Dorr-Oliver in Stamford as a sanitary engineer covering the New York State area, I gather from the technical sales or technical service angle. The Brisbins have two sons, ages three and one-half and one and one-half years. I have personally watched the building of the new Dorr-Oliver World Headquarters on Havemeyer Lane, which separates Old Greenwich and Stamford. It is an extremely handsome office building, and the company has handled the whole thing so well that early fears by Old Greenwich and Stamford residents about zoning have long since evaporated. I drive by every morning, presumably before Bris arrives on his days there, at 6:50 A.M. Lockwood Road, where the Brisbin home is located, is on the Westchester County road map, look near route 123 between Ridgefield, Conn., and New Canaan.

"Garvin Moore, Course VI, writes from Belmont, Mass., where he has recently joined Raytheon Corporation as a design engineer on their HAWK missile program. Martin Andonian, Course X, is now president of Andonian Associates. The firm is one year old and undertakes research, development and design, prototype fabrication and testing, I assume in the field of chemical processes and equipment. His office is at 976 Main Street, Waltham,

Mass. Dick Schweizer, Course X, has reported through his wife, Eileen. To identify herself she asks whether I remember the Delt chaperones. Hardly necessary: I remember Eileen as the sweetest, and certainly the prettiest chaperone ever to grace a fraternity party. Dick and Eileen now have four children: Ricky 10, Boni 7, David 6, Jeff 5, give or take a year either way. Dick is with Plymouth Cordage Company in Plymouth, Mass., not far from the lovely spot on the south shore the Schweizers call home in Duxbury. I will hereby request Dick to send me another one of those handsome photo reproductions of sailboats which Plymouth Cordage sends out (or used to) for good will. I ruined the one I obtained several years ago in the process of framing it.

"Dave Mohr, Course X, wrote in July from South Haven, Mich., where he was last summer for a couple of months to help his father recuperate from a serious illness. We hope that by this time things are back to normal in the high-bush blueberry capital of the United States and that Dave has returned to his thesis. He was originally scheduled to complete the thesis last summer and to report to Du Pont, Wilmington, this September. This time schedule is undoubtedly changed, but I have no further word at this time. Dave's position, when he gets to it, is with Polychemicals Department research at the Wilmington Experimental Station. Dave reports lunching with Jim Staikos (X, '50) and Jim Jensen (X, '50) in May. Jensen with a recently acquired Wellesley Hills home, Staikos with a recently acquired Volkswagen. Both are still with Arthur D. Little, as far as I know. Jim Jensen's address is 15 Whittier Road, Wellesley Hills, Mass., and Dave's at 51 Mt. Vernon Street, Boston, Mass.

"Ephriam Miller, Course X, stayed long enough to obtain a Chemical Engineering master's degree in 1953. He liked it enough to stay for an additional year on a Division of Industrial Co-operation project in chemical engineering and then came to the Foxboro Company in Foxboro, Mass., where he is now assistant editor of Installation and Maintenance Instructions. Eph finds technical writing and editing a challenging and rewarding field and includes a plug for M.I.T.'s training as excellent background for the profession. Eph's address is The Foxboro Company, Foxboro, Mass. Robert L. Miller, Course V, has also managed to stay in New England. Bob, with his wife and 17-month-old son Robert L., Jr., has just moved into a new house on Wilbraham Mountain. Wilbraham Mountain is evidently near Springfield, where Bob is still with Monsanto Chemical Company as a research chemist, studying the solid state structures and properties of polymers. He recently attended a two-week course in the M.I.T. Metallurgy Department. John C. Kern, Course XV, entered the office equipment industry after several years at the D.A.C. Laboratory (can't remember now what D.A.C.L. stands or stood for). He joined the McBee Company in Athens, Ohio, and moved to Hartford, Conn., when Royal Typewriter Company merged with McBee. Not knowing the exact title, I gather that J. C. is executive assistant to the director of research and development and office

manager of the research laboratory. John married Anne Moreland on September 13, 1958. Among the multitudes at the wedding were Dick Mathews, Course VI, '50; Gerry Fisch, Course XV, '50; Jack Jacoby, XV, '50; Bob Mann, II, '50; Tom Sawyer, XV, '49; Bob Scherr, XVI, '46; Tom Lacy, XV, '48. John and Anne spent their honeymoon in Europe where they toured Germany, Belgium, and Spain. Then back to the States, where they set up their residence at Hartford, Conn."

From New York state and our regional secretary, Don Miller, 21 Gaines Street, Huntington, N. Y., comes the following: "Peter Dayton, married, with one wife, one child, one doctorate, and only one job since Tech, is doing research with New York University and National Institute of Health. After graduating with master's in Mechanical Engineering, Lawrence Root worked at the Fafnir Bearing Company in New Britain, Conn., for four years. Since 1954 he has been working at Rollway Bearing Company, Inc., in Syracuse, N.Y. Still single, he keeps busy with golf and gardening hobbies. Jack Acton recently completed his eighth year with General Electric in various spots in the Motor and Generator Division. He spends most of his time on induction machines and currently is product design engineer with responsibility for production and design engineering for a line of synchronous and high-frequency machines. Jack's wife was the former Ethel Louise Murray of Concord, N. H. They have one son, John, five, and one daughter, Judy, seven. All four Actons live in Schenectady, N. Y., and Jack is presently at the General Electric plant in that city. Bill Lawrence is now a staff engineer at the International Business Machines Product Development Laboratory in Poughkeepsie, N.Y. He is helping design electronic circuits for the high-speed computers. He is living with wife Marjorie and two sons, David, five, and Jimmy, three, in a home they built themselves. (Still finishing by putting on the brick veneer work.) A rundown on Jonas Medney since Tech: October, 1950 to October, 1952 — in U. S. Army as private first class in Signal Corps Engineering Laboratories at Fort Monmouth; October, 1952 to February, 1953 — at Eastern Foundry, Jersey City; February, 1953 to March, 1956 — project engineer Avien, Inc., in Woodside, N. Y.; March, 1956, to present — secretary-treasurer of Lamtex Industries, Inc., Westbury, Conn. Jonas and Warren Ponemon, also of '50, are two of the principals in the firm that manufactures reinforced plastics, commutators, slip rings, rocket cases, and so forth. He was married in April, 1951, to the former Muriel Bookless of Pittsfield, Mass., and they have one son, Michael, who is now five years old."

Paul Zorn, 4400 Concord Drive, Trevoise, Pa., writes a bit about himself before transcribing the news from the Pennsylvania area: "After leaving M.I.T. I finally got a job at the Reading Tube Corporation in Reading, Pa., where I stayed for three years, helping in various ways to make copper and brass water tubing. Toward the end of that time I married Sally Brown, a friend of my sister at Bryn Mawr College. For the past five years or so I have been at Rohm and Haas in Philadelphia,

working in their Semi Works on process development. We now have three children: Peter, five; Mary, three; and Martha, almost one. What little spare time we have at present is usually spent on outings in the woods and in various activities connected with racial integration, particularly in housing. We live about a half mile from the intersection of Route U.S. 1 and the Pennsylvania Turnpike, and we are always happy to have guests for meals or overnight. We even have room to put them in.

"Irl Duling, Course V, now living in Newtown Square, Pennsylvania, has worked at Sun Oil Company, Marcus Hook, Pa., since 1950. He just received his master's in Chemistry from the University of Delaware, and is getting a Ph.D. from the University of Pennsylvania in two years. Harold Perkel, Course II, is now living in Levittown, Pa., and is a space cadet with Radio Corporation of America's newly formed Astro Electronics Division in Princeton, N. J. David Marcus, Course XV-B, is now at Glenside, Pa. He writes that he left American Biltrite and came with Interchemical's Cotan Division last September, and he is in charge of Cotan's sales in his area. Dave says that after Canada's weather, he and his wife, Corrine Hirsch of Portland, Maine, love their new location. They have two sons: Bruce, three; and Harold, nine months. Dave also mentions that he saw Emile Harp recently, and Emile and his wife are expecting a new addition to their family. Dave's Philadelphia office is at Interchemical, Germantown and Newmarket. Dave Levington, Course XV-A, and his wife, Audrey, live in Cheltenham, Pa., and Dave is working for Lit Brothers. Dick Keller, Course V, Midland, Mich., has recently changed jobs from General Electric's Research Laboratory at Schenectady to Dow Chemical Corporation in Midland. He writes that the number of children stands at four.

"Gordon Williamson is now at Langhorne, Pa. Gordon writes that since leaving M.I.T. in 1951 he married, bought a new ranch house, and has three children. His work at Rohm and Haas concerns organic coatings, basic studies and development, and so forth. Roger Graham, Course V, writes that he presented a talk on 'Synthesis and Characterization of Graft Copolymers' at the Gordon Conference on Polymers, New London, N. H., on July 4. He has also recently presented papers before the American Chemical Society, San Francisco, and at the Mellon Institute, Pittsburgh. Sanford Johnson, Harrisburg, Pa., writes that he received his master of science in Civil Engineering at M.I.T. in 1950. For the next three and one-half years he was employed in Boston doing structural drafting and designing on industrial buildings and power stations. Nine months before leaving Boston, he married. He moved to Harrisburg, where his new position put him in bridge design, which continues to the present time. He, his wife, and two children, have been living in their new home for a year now. This keeps them busy painting and putting around the yard. Presently he is a professional engineer in both Massachusetts and Pennsylvania."

Those of you who have written your various regional secretaries and still

haven't seen your name in print, don't give up the ship. There will be more next month. In the meantime, we hope you all had an enjoyable Christmas and New Year holiday. Make a new year's resolution to "Keep Them Informed." — JOHN T. WEAVER, *Secretary*, 24 Notre Dame Road, Bedford, Mass.

## 1951

The news seems a bit scarce this time. However, some of it dates back to last spring; so it probably ought to be published before it gets any older.

The 1958 graduation announcements of a number of colleges list '51 men who received advanced diplomas. William Chen was awarded a Ph.D. degree in Chemistry by Brooklyn Polytechnic Institute. Ed Becht got a master's degree in Metallurgical Engineering from Rensselaer. At Harvard, Morley Kahn and Dick Reedy both earned master's degrees in Business Administration. Dick Lock received his master of science degree in Engineering from Union College, in Schenectady.

There are two marriage notices in the file. Ed Dawson and Carolyn Kemp were married in Worcester in July. Bob Swift wed Beverly Banister last May in Hartford.

Others of our friends announce the birth of daughters. (All girls, so far, this year.) Steve and Jean Chamberlin write proudly about Jean Kay, their first, who arrived in November. David and Barbara Hammel presented Lisa Field in May. And Doctor and Mrs. Clint Seeley sent a card to tell about Laura Louise, born in July.

A clipping from *Pipeline News* tells that Bill Shenkle has been promoted to general manager of Rockwell Manufacturing Company's Instrument Division at Tulsa. Bill has been with Rockwell for about five years. Jim Ballou has received his registration to practice as an architect in Massachusetts and is established at Manchester. In April, Moise Goldstein told the Institute of Radio Engineers Boston section about "Computer Processing of Bio-Electric Signals" at the Red Coach Grille, complete with cocktails and dinner.

Merton Flemings, who is an assistant professor at Tech, has been named faculty advisor for Phi Mu Delta fraternity during the coming year. Terence Butler is now an instructor in mathematics at Rutgers, after receiving his doctorate at Indiana this June.

Jim Wygant coauthored a paper which recently appeared in the *American Ceramic Society's Journal*. He is with the Standard Oil Company, and in 1954 received the Ross Coffin Purdy Award for the most valuable contribution to ceramic technical literature. George Economos represented M.I.T. at the Ceramic Society's Pittsburgh meeting. Bill Miller and Dick Moroney presented papers at the summer general meeting and air transportation conference of the American Institute of Electrical Engineers, in Buffalo.

We saw Jack Wingard at Tech one day during the summer. He is now living in Longmeadow, Mass. Since last March, he has been working for T. A. Pearson Associates, general contractors. This

comes after three and one-half years on the West Coast and two and one-half years at Cape Canaveral, with North American Aviation.

Bob Woolworth and Bob Gooch spent the better part of two weeks together at the Institute, in September, attending the summer program on earth embankments. Featured on the program was Professor Jim Roberts, who lectured on the strength characteristics of clay materials. While this was going on, there was also a cryogenics conference at the Kresge Auditorium; and we were lucky enough to run into Hank Marsh, who was there on behalf of Owens-Corning Fiberglas. Hank reports that his farm house, vintage 1850, or thereabouts, is slowly yielding to his efforts for modernization.

As always, we would certainly appreciate some spontaneous letters from all of you whom we have not heard from in so long. Write and tell us what you are doing. — RICHARD W. WILLARD, *Secretary*, Box 105, Littleton, Mass. ROBERT S. GOOCH, *Assistant Secretary*, 407 Danciger Building, Fort Worth 2, Texas.

## 1952

While Dana Ferguson is taking notes in the Caribbean Islands for our next Technology Review issue, here's what's new this month. This fall, George Clark and coworkers flew a balloon near Minneapolis, Minn. The newsworthy part of this story is that this balloon was the largest ever flown and carried an M.I.T. cosmic gamma ray telescope. According to one report, the balloon was followed by plane and truck. "They bore north, then east, then south again. As a final coy maneuver the balloon circled Rochester, Minn., in a 188-mile sweep."

Another technically trained classmate (S.M. '52), Dudley Buck, received the honorable mention award for being an outstanding young electrical engineer of 1958, given annually by Eta Kappa Nu. Among other things, Dr. Buck invented the cryotron. He gave a talk at the Eastern Joint Computer Conference December 3 through 5 in Philadelphia. From Bell Telephone Laboratories comes word that Max Mathews is a principal worker in the advanced field of digital computers' use in simulating speech experiments. This area has promise in speech and television research. Another electrical engineer from '52, George L. Turin, is working at Hughes Aircraft Company, Culver City, Calif., on radar research. Since receiving his Sc.D. from M.I.T. in 1956 (Course VI), George has been with Hughes Aircraft. Previously he had been an M.I.T. Overseas Fellow at Marconi's Wireless Telegraph Co. in England; and between 1952 and 1956, he worked at the Lincoln Laboratory in the area of statistical communication theory.

One man, Yaichi Aikawa, has been thinking about food. As treasurer of Tuna Products Corporation, Boston, and as a biochemist, Yaichi is credited with the "tuna frank," or the Sealady Tuna Frankfurt; just as it sounds, it looks like a hot dog, tastes like a hot dog, but is made with tuna fish. Also in Boston, John B. Shannon's architectural firm, Lawrence and Shannon, won the Boston Arts Festival Architecture Award for their Scusset

Beach Development. Next time you're visiting the Institute, you might include it in your itinerary.

West of Boston, in Springfield, classmate Bob Green has been appointed instructor in the evening division of Western New England College. Bob will be teaching industrial management in the School of Business. He is with Chapman Valve Manufacturing Company as assistant foundry superintendent. Conrad Hemond, Jr., made news recently in an article on educating engineers for today's society. The article is directed toward the University of Hartford, where Conrad is acting director of the School of Engineering. However, statements such as "to encompass the details of these fields in a four-year bachelor's program is an academic impossibility" may hold true for other engineering institutions as well. Getting back to E.E., Anthony Jamroz spoke at the Canadian Institute of Radio Engineers exhibit held in Toronto, October 8 to 10. Anthony, who is working at Northern Electric Company, Ltd., Belleville, Ontario, spoke on stereophonic disc recording and audio.

News has been received of the death of James A. Looney, S.B. in Aeronautical Engineering '52 and a master's degree the following year. A first lieutenant, air force flight test engineer at Edwards Air Force Base, Calif., he was also a project engineer in charge of setup, performance, and evaluation of flight test programs.

Charley Saltsman and his wife Hannah have announced the birth of a baby boy, Charles Marsdon Saltsman, 3d. Charley 3d was born September 14.

If you want to keep your classmates posted on your activities, write to The Technology Review, M.I.T., or to Dana or myself, and you will see your news in print. (When you're in New York City, stop in at the M.I.T. Club, Hotel Biltmore). — JAMES M. MARGOLIS, *Acting Secretary*, 10 East 39th Street, New York 16, N. Y.

## 1953

News from the home front is quite slim. Do hope you birds will start writing furiously. (Of course, you might be interested in knowing about the time lag that occurs between writing the notes and publishing them. These January notes were handed to the Technology Review on November 15. Consequently, please understand if at times the news seems stale.)

A couple of weeks ago Don McCool wrote a long letter explaining his absence from this part of the country. Don and Melba are living in Inglewood, Calif., where he has been working for the Ralph M. Parsons Company for the past two and one-half years. Apparently some of the two and one-half years prior to this were spent in Guam. His present company is quite diversified, doing work in the petrochemical, nuclear, electronics, and defense associated research and development programs. Don has served as project engineer on various programs, such as the test facilities for the aircraft nuclear propulsion program being managed by the Atomic Energy Commission and the General Electric test reactor currently under

construction, and now is project engineer for a satellite tracking station. He also mentioned that he had heard from Raul Bachman, who at the time was in Switzerland working on the Mauvosin Dam for Electrowatt Co.

Another note dropped in from Gil and Janie Gardner, who have been transferred to Maxwell Air Force Base in Montgomery, Alabama, for three months to attend Squadron Officer's school (whatever that is). Most of the letter was impossible to read, but I did note that Gil has been put on the "availability" list for return to school (i.e., graduate school with Uncle Sam footing the bill). Also, Janie said: "The climate here is for the ants. It is hotter than you can imagine."

Little dribbles of news. Ole Alex Gutwurcel must be back in the States, as I got an in-care-of address for him in Hartford, Conn. Prior to this, he was home in Tel Aviv, Israel. Apparently Bill Kingkade is now a professor, though the only lead on where he is teaching is his home address in Hollis, N.Y. Victor Macres has his doctorate and is with the Department of Metallurgical Engineering at Stanford University in California. Bob Cotten also has a professorship, while teaching in the Architectural Design Department at Kansas State College (Manhattan, Kansas). I understand Dale Robertson is in the Boston area and is in the construction field with Turner Construction Company. Ted Brown (see the December issue), in the course of his study in Holland, wrote and has had published a book, *The Work of G. Rietveld, Architect*. Both Dick Linde and John Morgenstern have brothers in the freshman class (1962) at M.I.T. George Monks and Dolores Amor were married in Cohasset, and the ceremony was performed by his father, the Reverend Monks. George spent part of the last five years in Germany, with the U. S. Army. Dolores is from Montpelier, Vt., and graduated from the University of Vermont. Aarne Kauranen has also acquired a bride, Vivian Harlow. They were married in the middle of October in Mayfield, Ky. Aarne's wife attended Western State College, Bowling Green, Ky., and he is presently working for Metcalf and Eddy. Edward Kingsbury and Betty Sykes of Rochester also were married this October in Framingham. Betty graduated from Katherine Gibbs; and Ed finished his doctoral studies at Tech, where he is a research associate. At the present time they are living at Fairhaven Hill in Concord, Mass.

John Batter is the project engineer of a series of radiation test studies being conducted by Technical Operations, Inc., at Old Fort Strong near Quincy, Mass. This is the first test series of this nature to be conducted in the "free world," and it will provide useful information on the shielding capabilities of large structures. John Harding recently received his Ph.D. from the California Institute of Technology and has accepted an appointment as assistant professor of physics at the University of California's new College of Letters and Science at Riverside, Calif. Robert Dickinson, a 1953G classmate, is the coeditor of a recent book, *Sodium Graphite Reactors*. At the present time he is chief project engineer for sodium

graphite reactors at Atomics International, where he has been employed since 1956. Prior to that he was a commander in the Navy and was attached to the Atomic Energy Commission. Karl Epple has been appointed director of engineering for the Heli-Coil Corporation (a division of Topp Industries), manufacturer of Heli-Coil wire thread inserts and thread repair kits. Karl has been employed by Heli-Coil since graduation, though he had to take time off for a tour in the Air Force, where he was assigned to Wright Field, Ohio, as research engineer. Marty Wohl received the 1958 Past President's Award of the Institute of Traffic Engineers for his paper entitled, "Vehicle Speeds and Volumes Using Sonne Stereo Continuous Strip Photography."

Just talked with Jim Howard, who joined Baldwin-Lima-Hamilton three years ago after working for Raytheon for a short while. Seems to enjoy his work, and is project supervisor for Instrumentation Systems (basically, sales work). He finished his Army service in 1955 and was married shortly afterwards. Jim and Dory have a two-year-old boy and a four-months-old daughter; they are living out in Waltham, close to the B.-L.-H. Route 128 plant. He also told me that Bill Hearne married his wife's twin sister; consequently, they are uncles for each other's children . . . a nifty arrangement! Bill has been working for Arthur D. Little for the past two years. — MARTIN WOHL, Secretary, Apartment 8-18C, 100 Memorial Drive, Cambridge 42, Mass.

## 1954G

A few notes are all that is needed to bring our Class into this column again. I recently learned that Dr. Amiel Feinstein currently Acting Assistant Professor in the Department of Statistics and Electrical Engineering at Stanford University, wrote *Foundations of Information Theory*. Also recently published by McGraw-Hill was *The Properties of Gases and Liquids* by Drs. Robert C. Reid and Thomas K. Sherwood '24, both of M.I.T. Department of Chemical Engineering.

This past summer Monroe M. Dickinson, Jr., was appointed development engineer, Research Engineering Supervision Department, at the International Business Machines Owego, N. Y., plant. Robert L. Rhodes has been named head of the Northwest Orient Airlines' newly created Maintenance Division, to which line maintenance, overhaul and engineering report.

Representing the Class in the Institute of Radio Engineers are Robert M. Lerner, now at M.I.T. Lincoln Laboratory, who spoke at the I.R.E. Canadian Convention and Exposition on "A Simplified Method for Designing Wide-Band High Precision 90-Degree Phase Networks," design techniques, and Professor Hermann A. Haus, whose paper on non-linear media was printed in the July issue of the *I.R.E. Transactions*.

Marriage news is that of Neva Maire Baine of New York City to Thomas P. Murphy. They were married in Weston, Mass., and will live in New York City. I also learned of the marriage in Kirkwood, Mo., of Phyllis Barret to William Walsh. They will live in Burlington.

Others in your Class enjoy reading about you, so let's maintain the increased traffic of news notes. — NEWTON SHANBROM, Secretary, 824 Gilmore Drive, Reynoldsburg 26, Ohio.

## 1956

With the start of the new year it is good to see that our group is responding to the increased burden placed on the scientific personnel of the nation.

Richard Alden wed Martha Plan of Brooklyn, N. Y., in September. Dick has done research at National Cash Register, but this year he and his wife will attend the University of Washington at Seattle. Valentin Berger wed Donna Jennings of Salem Depot, N. H., in August at the M.I.T. Chapel. The reception was held at the Faculty Club and the couple will live in Cambridge. Valentin received his S.M. from Tech and is now employed by Kelsey and Edwards in Boston. Richard Carlson wed Priscilla Mabel Tims of Wellesley Hills in September. Robert Krooss wed Nina Louise Wiita of Brooklyn, Conn., in May. He received his master's in Business Administration from Harvard in June and entered the Army for six months in June. Peter Dyke and James Fleming were ushers at the wedding. Douglas Lowen wed Judith Austin Houck of Westfield, N. J., in October. He is working on his doctorate and teaching at Rensselaer Polytechnic Institute. John Mulholland wed Janice Clare Walker of Orange, Mass., in October. John is a structural engineer with Metcalf and Eddy in Boston. Stuart Peltz wed Virginia Rose Rudnick of Brookline in August. Albert Schallenmuller wed Elizabeth Martha Mutz of Needham, Mass., in June. Al works for the Rocket Dyne Division of North American Aviation in Los Angeles.

Harvey Brownrout is attending Harvard this year. John Broyles is attending Harvard Business this year. Alan Green received his S.M. and is now working at the Instrumentation Laboratory at Tech. Elmer Hanks received his S.M. and worked in the Instrumentation Lab at Tech and is now with I.T.E.K. Corp. in Boston. Louis Maisel received his S.M. at Tech in 1957, worked as a research assistant at Lincoln Laboratory, and in June started at the Naval Armament Systems Engineering Department of Sperry Gyroscope. William Orttung is studying electrical and optical properties of macromolecular solutions at the University of California. Bill received a National Science Foundation award in 1956-57 and has received Bell Laboratories awards for 1957-58 and 1958-59. In a recent card Chuck Persons states that he received his S.M. at Tech in September, is now working on his doctorate at Stanford, and enjoys California.

Kreon Cyros has been released from the Army after serving as a lieutenant in the combat engineers in Korea. Kreon is now with Stone and Webster in Missouri. Marinos Gerakaris is now an Air Force lieutenant serving in the Las Vegas, Nev., area. Angelo Perciballi is a lieutenant with the Air Force in Dover, Del. Lawrence Sayah is a lieutenant with an Air Force Communications Squadron in Europe or vicinity.

Mary Fawcett has won recognition for her part in a design entry for an apartment and shopping development in Brookline. Alex Koso is at Tech in the Electrical Engineering Department. Arthur Krinitz gave a paper entitled "Transistor-Magnetic Pulse Generator" at the 1958 National Electronics Conference. Ronald Massa is at Tech in the E.E. Department. John Mayer is back in the Process Engineering Department of General Aniline and Film after working in the Calvert City plant.

Dr. Killian made one of his rare public statements on November 11 before a group of educators to call for improved and enlarged scientific training. To speculate why we seldom hear from Dr. Killian: could there possibly be fear that politicians might try to neutralize his great stature among the scientists and educators of the nation so that he must accomplish his work quietly? — BRUCE B. BREDEHOFT, *Secretary*, 1528 Dial Court, Springfield, Ill. M. PHILIP BRYDEN, *Assistant Secretary*, 3684 McTavish Street, Montreal 2, P.Q., Canada.

## 1956G

Lieutenant John M. Balfe, U.S. Navy, has written in that he "reported for duty to staff, COMNAVAIRLANT, as ship's atomic officer." His previous duty station was Navy Squadron VA-25, where he served as "operations officer and a carrier-based special weapons delivery pilot."

After a year at Michigan State, Leo Jedynak has returned to the staff of the Electrical Engineering Department at M.I.T. At the end of last term, Leo was awarded one of the annual teaching awards of \$500 given to graduate students for "excellence in teaching." Associate Dean of Engineering H. Guyford Stever, Jr., presented the awards.

Dick Fix has announced his engagement to Miss Norma Tolivaiva of Bridgewater, Mass. His bride-to-be is a fellow scientific colleague, having received an A.B. in Chemistry from Radcliffe. Dr. Fix is with Controls for Radiation, Inc., Cambridge, as head of the Nuclear Chemistry Division.

From Lyn Kibler comes news of a busy life: "My wife Edith and baby Barbara Lynn are enjoying the pleasure of the Jersey shore during the summer and snow during winter. I have also been attending the Labs' Kelly College — i.e., Communication Development Training Program — plus working on a doctor's degree at New York University." After graduation in '56, Lyn went to work for Bell Laboratories in Holmdel, N.J.

John Funderberg and Betty Anne Blumenthal are engaged. A wedding is planned for this month. Betty Anne is a graduate of Endicott Junior College. At the 55th meeting of the Acoustical Society of America, held in the Willard Hotel in Washington, D.C., in May, 1958, Peter A. Franken'56G copresented a paper entitled "Noise Radiated by Jet Systems."

Jim Williams is now the manager of Atomic Instrument Sales for Baird-Atomic, Inc., Cambridge. His activities encompass portions of research and development, liaison with industrial and medical fields in the application of radioactivity methods and techniques, and give him

overall supervision of marketing and sales efforts of atomic instruments and sales.

The dean of the Faculty of Worcester Polytechnic Institute has announced the faculty promotion of Owen W. Kennedy. Professor Kennedy was graduated from W.P.I. in 1944. He had been on the W.P.I. Faculty until he went on leave in 1955 to come to M.I.T. for special study. — LIEUTENANT (J. G.) CHARLES T. FREEDMAN, U.S. Navy, *Secretary*, U.S.S. *Independence* (CVA-62), F.P.O., New York, N.Y.

## 1957

In case you don't recognize the handwriting, don't feel that you are getting older and your eyes are failing you. Al May and Marty Forsberg have given me the pleasure of writing a few words this month. First let me thank everyone I haven't already thanked for last year's contributions to the Alumni Fund. At the Alumni Fund Conference in early September, which Al May, Ed Roberts, and I attended, I was proud to learn, as I am sure you will be, that for a first-year-out class we had the highest percentage of class participation in the Alumni Fund since its inception. Credit is due to Ed, who co-ordinated our efforts, and to everyone who sent in a check — from the many \$5, \$10, and \$20 donations to the one \$200 contribution.

Ed Hasselmann, who chaired our cocktail parties in Boston, is now learning how to fly with the U.S. Air Force. Ed Roberts is looking for people to help on the bottle tilting committee in the Boston region. Contact Ed if you can help or if you'd just like to know when the parties will be. Al May and I are going to try to get the glasses filled in New York.

I received some welcome mail last spring, news from which I'd like to pass on. Bjarne Ursin writes: "All of those who bet me last spring that our first child would not be born on my birthday at 8:30 A.M.  $\pm$  15 minutes lost. She was born 8:35 A.M. August 8, 1957 (my birthday), and christened Teri Lee." Leave it to a Course VIII man to work out a problem from start to finish. Bjarne is living in a new home he built in Nashua, N.H.: address, 8 Indiana Drive. He says they are "open house" almost every week end to those liking country life. Jay Holladay, working in Arizona, came back to Cambridge last May 3 and took the prettiest girl out of the M.I.T. President's Office when he married Sally Ann Winslow. They are both back in the Arizona sun. Dick Blieden, at last count, is doing graduate work in physics at the University of Washington.

Joe Coster sends news from Berkeley. He writes: "Other M.I.T. graduates here in physics: Bernie Cooper, Warner Hirsch, Bill Bowman." Last spring Joe thought Marty Zombeck and Ben Woznick might get there this fall. (They too, have enough people for a cocktail party now.) Joe concludes: "As to your question about cars and love, I am still — alas — a virtuous pedestrian."

Pete Sinz was in Puerto Rico last May with the Army breathing down his neck. Our other classmate from P.R., Dick Gonzalez, known to the world as Pancho,

is drinking German beer with the U.S. Army Ordnance Corps. Dick writes: "I'm going real German and have a German dachshund too. His name: Schnapzie; loves beer, but still too young to drink his namesake. He has learned how to carry two beer cans strapped to his back . . . hmm, that is what you call making maximum use of personnel." Charley Kettler, working in Dallas, is flying a recently acquired plane. Harry Flagg was last seen heading towards Hawaii in an MG. He's stationed there after Officers Candidate School at Newport, where he ran into Al Bernhard. Hal Smith married Mimi Bamford in June. From what I know of Mimi's cooking, he'll soon be gaining weight. Bob Wrigley is at the Theological School of St. Lawrence University, where he is holding down about six jobs "to pay for my books, tuition, beer, and other essentials."

That's about all I can think of for now. I'd better say that Hank Salzhauser wrote this month's story — just in case you don't recognize my handwriting. — HANK SALZHAUSER, 3815 Laurel Avenue, Brooklyn, N.Y. ALAN M. MAY, *Secretary*, 55 East End Avenue, New York 28, N.Y. MARTIN R. FORSBERG, *Assistant Secretary*, 383 Harvard Street, Cambridge, Mass.

## 1958

The Class of '58 returns to its familiar corner once again this month. I know you're certainly wondering about our absence from the customary spot last month, and undoubtedly you've come to the conclusion that Yours Truly has died or met a similar fate. Well, you're close, but happily not quite correct. It seems that last month my local draft board suddenly applied an uncommonly heavy pressure in my particular direction, specifically a reclassification of 1-A subject to imminent call. Needless to say, this flanking maneuver led to a period of induced panic on the part of your reporter. Therefore, during the time of communication, consultation, and appeal which immediately followed, I was "not in attendance" at the Institute when the deadline date for the December issue rolled by; and thus the Class of '58 unfortunately wasn't represented in the Class Notes section. Although still unsettled, affairs seem a bit more secure now; and I trust and hope that you're as concerned as I am that such a happening doesn't reoccur.

Now to get on to the business at hand. The worst part about missing an issue is that we slip a month behind in digging into the mountain of newsworthy items before me. The rate of accumulation of information seems to be outdistancing the rate of dissemination, such that the estimate from my last column of a "catch-up" date will probably have to be set ahead a month or two.

Beginning at the top, first of all we'll run down a few more items in the nuptial lists. Architect Ralph Warburton'57 was married to Carol Hychka, a Boston University School of Fine and Applied Arts graduate, here in the M.I.T. Chapel on June 14. Since Ralph was the recipient of a Skidmore, Owens, and Merrill Traveling Fellow Award, the couple

honeymooned in Europe, where they spent the summer months. In September they returned to New Haven, Conn., where Ralph's now enrolled in graduate architectural design at Yale University School of Design. On the same day, Bob Kolk, II, was wed to Judith Baribeau of Simmons and Taunton, Mass. She'll be completing her senior year at the University of Southern California while Bob is working at North American Aviation in Los Angeles. On June 21 Charles Gilliatt, VI, entered wedded bliss with Joan Watson of Boston in another ceremony performed in the Chapel, which seems to be becoming quite a popular spot for Tech men of '58 to abandon their bachelorhood. Joan is a graduate of Hollins College in Virginia and is studying for a master's at Boston University. After a wedding trip to Bermuda, the couple is now residing on Beacon Hill right here in Boston. Another Course VI man, Robert Kley, also took the big step on the 21st by marrying Katy Gibbs graduate Jean Colby here in Boston. They're living in Uniondale on Long Island now, where Bob is employed by the Arma Corporation in Garden City.

Although Course VIII men are supposed to be noted for their independence of thought and action, John Seavey found quickly that there's greater strength in numbers which approximate two, by joining in marriage with Alicia George of Chandler. They were married in local Wollaston and will live in nearby Cohasset, where John is a physicist with D.S. Kennedy and Co. Meanwhile, Bill Duffy was wed to Eleanor Warren of Needham Heights on June 21. Eleanor was a '57 grad from Lasell. Bill will begin fulfilling his R.O.T.C. commitment with your Columnist's friend Uncle Sam in December. Finally, from the ranks of the Class of 1958G, the marriage of Lieutenant Donald Moyer, S.M. in Naval Architecture, to Muriel Webb was performed in Lexington, Mass., on June 7. Don, of course, is a Naval Academy grad, while his wife is another Lasell alumna. They're now residing in San Francisco.

In other pursuits, reports which have reached me so far indicate that Conrad Revak, X-B, takes the Class of '58 prize

for the fastest change-of-pace following graduation. It seems that Conrad and his father spent the nine days following The Happiest Moment paddling a canoe 300 miles from Olean, New York, down the Allegheny River to Pittsburgh. Carrying their own provisions and camping along the banks of the Allegheny at night, they included a scuttling mishap at Oil City among their experiences. Work with Du Pont in Charleston, W. Va., where Conrad is currently employed, should seem understandably pretty dull by comparison.

Perusing the pages of *Voo Doo's* favorite campus newspaper recently, we came upon an item revealing that eight '58 men had received Woodrow Wilson National Fellowships for graduate study at various institutions around the country. Frank Galeener, Gerald Guralnik, Ahren Sadoff, Rae Stiening, Allen Tucker, Russ Walstedt (of Commencement Luncheon fame), and Zvi Westreich, all Course VIII, and Nathan Sivin, one of the first graduates in XXI-B, received the \$1,400-plus-tuition stipends awarded to prospective college teachers in the United States and Canada.

News concerning job locations includes Bob Crice, VI, who is now with the Long Lines Department of American Telephone and Telegraph. Fred Fisher, I, is already finding out what life looks like from the other side of the classroom. He's an instructor in physics at the Wentworth Institute right here in sunny (?) Boston. Second Lieutenant Jack Christensen, VI, is at Malden Air Force Base in Missouri for pilot training under his Air Force R.O.T.C. commission. Herb Cálves, XV, is currently an Army R.O.T.C. second lieutenant on the six months' plan, following which he'll join the Philadelphia branch of Joseph Ryerson and Co. (steel warehouse merchants).

Speaking of '58's military contingent, I've been running into quite a few of them recently on campus, proving that either they're Away Without Leave or life in the service is treating the fellows pretty well these days. Danny Holland, II, who hustled his way to an early degree in May, was a recent visitor. A true Athletic Association man to the end, Dan was out watching his Delt house intramural

football team in action. He related that he's already completed his six months' hitch in the Army and will soon be moving out into the cold, cruel world. Another R.O.T.C. man, Jim Kennedy, VII, gave me a lift to Harvard Square recently while introducing me to his wife of a few months. Jim is currently in a paratroop outfit, of all things. More power to you, fellow! Dave Berg, II, has been around the past few days on leave from the Corps of Engineers' home at Fort Belvoir. Dave will soon be transferred to nearby Fort Devens, so we'll be seeing quite a bit more of him in the future.

Well, if I don't put in some kind of plug for The Boss, there are bound to be angry political repercussions. Therefore, I'll quietly pass along the word that Robert Elijah Jordan the Third, XV, has seen fit to desert his own flesh and blood in favor of that infamous little country day school further up the Charles. It seems that Prexy Bob is currently studying at Harvard Law School under a \$2,000 Edward John Noble Foundation Fellowship. He and his family (wife Julia is Wellesley '58) are living at 19 Everett Street in Cambridge.

To close with a couple of notes on the higher degree members of the Class of '58, George Lamb (B.S. and M.S. from Boston College, Ph.D. in VIII) is a physicist in the Test Division of the Los Alamos Laboratory, which participates in the scientific direction of nuclear field tests in Nevada and at Eniwetok. Sloan Fellow Robert Workman (B.S. from Case Institute of Technology, S.M. in XV) was appointed assistant general manager of the Chemical Division upon his return to work at Goodyear in Akron, Ohio. Another Sloan Fellow, George Stone, S.M. XV, was named general manager of the J.B. Roering and Co. division of Charles Pfizer and Co. upon his completion of his year's study.

That's just about all for now. Again, let me reiterate that I'm always receptive to notes, letters, clippings, comments, complaints, and so forth, from any and/or all of you. Look for us again next month at the same old stand. — HERB JOHNSON, *Secretary-Treasurer*, 484 Beacon Street, Boston 15, Mass.

**Mr. X:** Where are you going?

**Mr. Y:** To DETROIT, MICHIGAN

**Mr. X:** Why?

**Mr. Y:** To attend the M. I. T. REGIONAL CONFERENCE, of course

**Mr. X:** When is it?

**Mr. Y:** SATURDAY, JANUARY 31, 1959

**Mr. X:** What's happening there?

**Mr. Y:** The day-long program will feature speakers from M.I.T. and luncheon, panel discussion, reception, and dinner.

**Mr. X:** Who's talking?

**Mr. Y:** DR. GEORGE R. HARRISON, Dean of the School of Science

DR. THEOS J. THOMPSON, Professor of Nuclear Engineering and director of design and construction, M.I.T. Nuclear Reactor

DR. H. GUYFORD STEVER, Professor of Aeronautical Engineering

DR. CARL F. J. OVERHAGE, Director of Lincoln Laboratory

DR. JOHN E. BURCHARD'23, Dean of the School of Humanities and Social Studies

DR. J. A. STRATTON'23, President of the Institute

**Mr. X:** Sounds great! Who's attending?

**Mr. Y:** M.I.T. Alumni and other interested persons

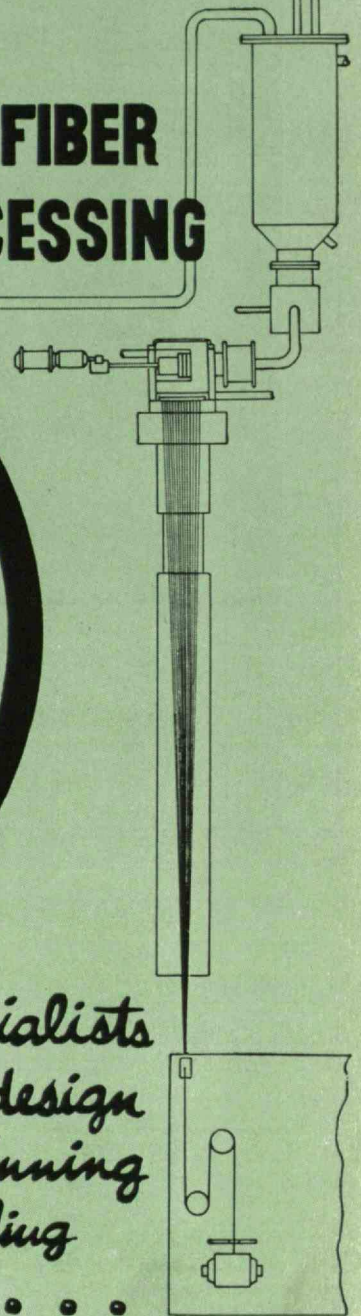
**Mr. X:** Who can I contact for details and to sign up?

**Mr. Y:** That would be Conference Chairman THOMAS F. MORROW'35, Vice-president, Chrysler Corp., 341 Massachusetts Avenue, Detroit 31, Michigan.

**Mr. X:** Guess I'll go, too. See you there!

## What About You?

# SPINNING and SYNTHETIC FIBER PROCESSING



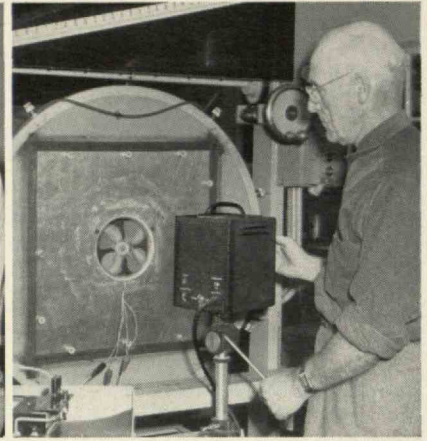
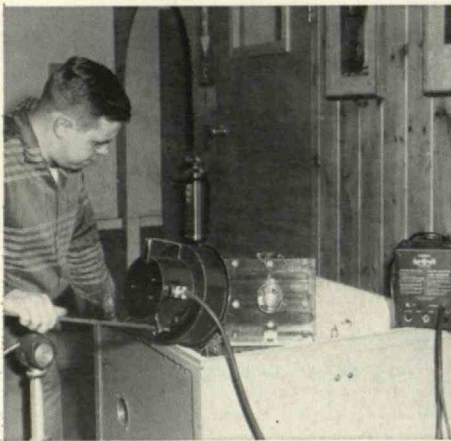
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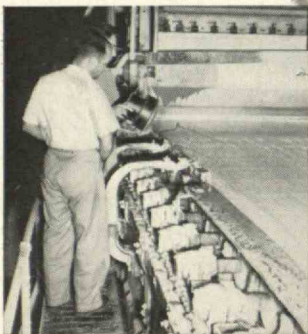
**Rotron Research Corp. of Woodstock, N. Y., uses several dozen Strobotacs continuously in the design and production testing of its small fans and blowers, which are used in the cooling of electronic equipment. Typical tests include:**

During vibration testing, Strobotac and Strobolux® auxiliary light source spot mechanical resonance present in a developmental vane-axial blower.

Motor-speed measurements under various loads imposed by dynamometer during production testing.

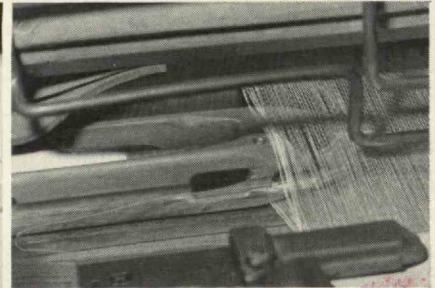
Measuring motor speed during air-moving capacity test of experimental fan in a standard NAFM test chamber.

#### OTHER INDUSTRIAL USES FOR G-R STROBOSCOPIC EQUIPMENT . . .



◀ A Strobolux in use at a typical paper mill helps observe water removal and sheet formation on a Four-drainer wire.

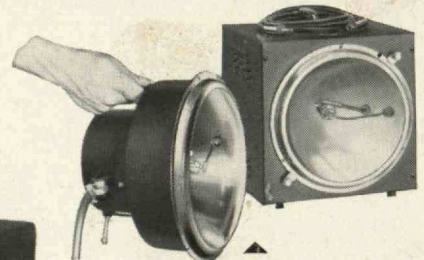
Checking spindle speeds to an accuracy of  $\pm 1\%$  at textile mill. ▶



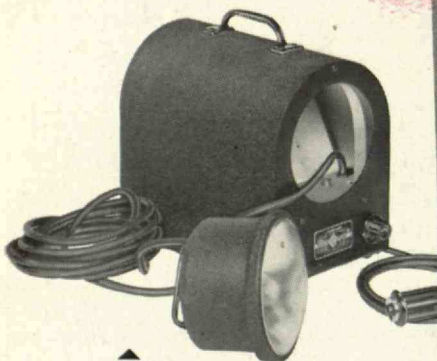
▲ Faulty loom shuttle seen striking warp threads with aid of a Type 1532-B Strobolume.

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- ★ Measures speed from 60 to 100,000 rpm.
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